USAF SERIES

F-5E/F

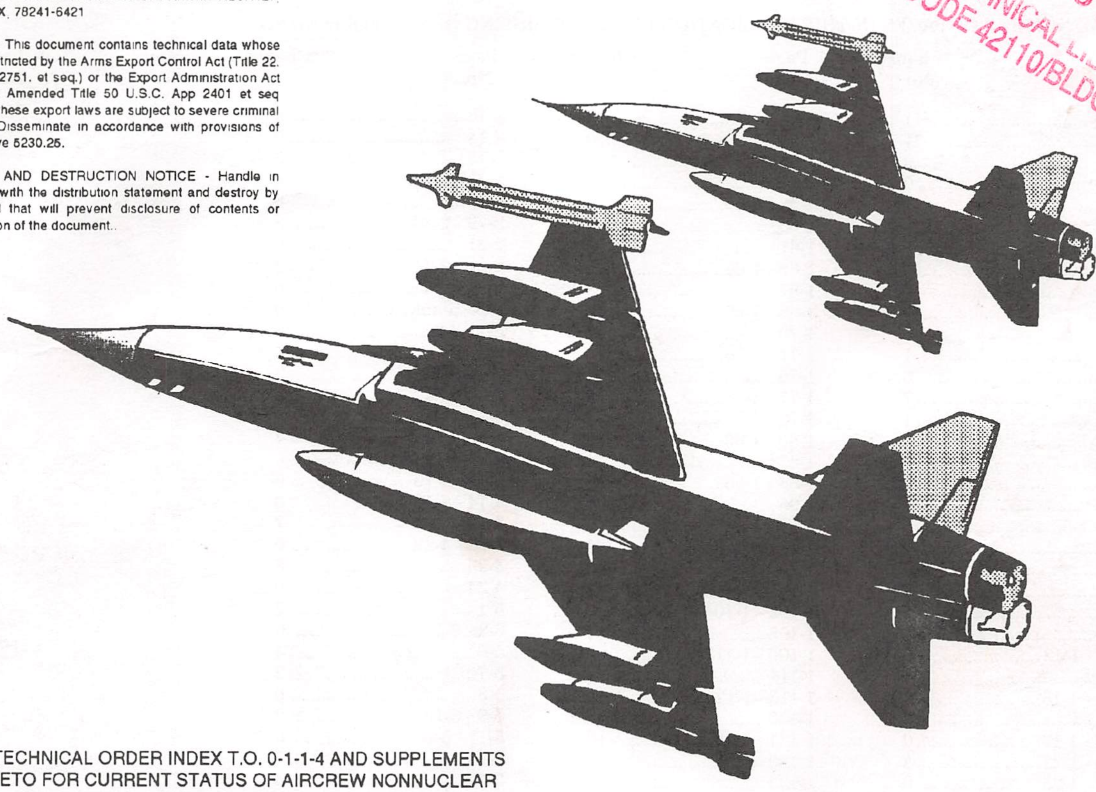
AIRCRAFT
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AIRCREW NONNUCLEAR WEAPONS DELIVERY MANUAL

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SEE TECHNICAL ORDER INDEX T.O. 0-1-1-4 AND SUPPLEMENTS THERETO FOR CURRENT STATUS OF AIRCREW NONNUCLEAR WEAPONS DELIVERY MANUALS, CHECKLIST AND SUPPLEMENTS.

THIS PUBLICATION IS INCOMPLETE WITHOUT CLASSIFIED SUPPLEMENTS T.O. 1F-5E34-1-1-1, T.O. 1F-5E-34-1-1-2, T.O. 1F-5E-34-1-1-3, T.O. 1F-5E-34-1-1-4 AND T.O. 1F-5E-34-1-1-5.

THIS PUBLICATION INCORPORATES OPERATIONAL SUPPLEMENTS T.O. 1F-5E-34-1-1S-9 DATED 20 JULY 1988, T.O. 1F-5E-34-1-1S-10 DATED 4 DECEMBER 1989 AND T.O. 1F-5E-34-1-1S-11 DATED 10 MARCH 1992.

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PUBLISHED UNDER AUTHORITY OF THE SECRETARY OF THE AIR FORCE

AIR FORCE 11 AUG 94-1311

1 JULY 1983

CHANGE 11 - 15 JUNE 1994

LIST OF EFFECTIVE PAGES

INSERT LATEST CHANGED PAGES. DESTROY SUPERSEDED PAGES.

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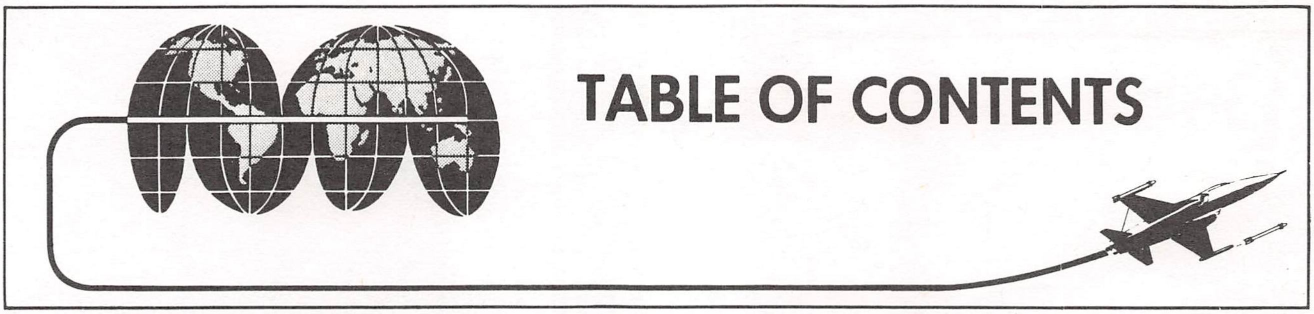


TABLE OF CONTENTS

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FOREWORD

PURPOSE AND SCOPE

This manual provides procedures for planning and executing nonnuclear weapons delivery missions using the F-5E aid F-5F aircraft. The various delivery modes are described and the factors which influence weapons delivery for each mode are identified. Physical and functional descriptions of weapons and their suspension and release systems are included to establish characteristics and method of operation. Tables are provided to determine release points for each delivery mode, type of weapon, and release condition. Techniques of weapons delivery and tactics to be employed are not discussed except as needed to describe delivery requirements and illustrate the use of data. Information on combat tactics and techniques is available in AFM 3-1 Tactical Fighter Weapons Employment. Classified information is contained in confidential supplements:

T.O. 1F-5E-34-1-1-1	AIM-9B-2, -3 launch data. Bomb and Fuzing data.
T.O. 1F-5E-34-1-1-2	AIM-9E series descriptive aid launch data.
T.O. 1F-5E-34-1-1-3	AIM-9J/N/P series descriptive and launch data.
T.O. 1F-5E-34-1-1-4	ALR-46(V)-3 description and operating procedures.
T.O. 1F-5E-34-1-1-5	GBU-10F/B, -1 2E/B LGB procedures and delivery data.
T.O. 1-1M-34-3	AIM-9P-4 descriptive and launch data

The following nonnuclear weapons, nonnuclear training weapons, and associated equipment are used with the F-5E and 5-F aircraft:

NONNUCLEAR WEAPONS

Ammunition, 20 millimeter
Bomb, Cluster, 750-pound, CBU-24B/B, -49B/B, -52B/B, -58/B, -58A/B, -71/B, -71A/B
Bomb, Fire, 750-pound, BLU-1 and -27 Series (Finned and Unfinned)
Bomb, Fire, 500-pound, BLU-32 Series (Finned and Unfinned)
Bomb, GP, 500-pound (low drag), MK-82
Bomb, GP, 500-pound (retarded), MK-82 Snakeye I
Bomb, GP, 1000-pound (low drag), MK-83
Bomb, GP, 2000-pound (low drag), MK-84
Bomb, GP, 750-pound, M117
Bomb, Laser-Guided, GBU-10F/B
Bomb, Laser-Guided, GBU-12E/B
Bomb, Leaflet, M129E2
Destructor, 500-pound, MK-36
Flare, Illuminating, MK-24, LUU-2/B
Flare, Target Marking, LUU-1/B, -5/B
Gun, 20-millimeter, M-39
Missile, AIM-9B/E/J/N/P series (Sidewinder)
Rocket, 2.75-inch (FFAR)

NONNUCLEAR TRAINING WEAPONS

Bomb, Practice, BDU-33 Series
Bomb, Practice, MK-106
Missile, AIM-9 (Captive)
Target Rocket, TDU-11 /B

ACCESSORY EQUIPMENT

Dispenser, Practice Bombs and Rockets, SUU-20A(M), -20A/A, -20B/A
Dispenser, Flare, SUU-25A/A, C/A, E/A
Launcher, Wingtip, for AIM-9 missile
Launcher, Rocket, 19-tube, LAU-3/A, A/A, B/A, -60A
Launcher, Rocket, 7-tube, LAU 68A/A, B/A
Adapter assembly for SUU-20 (F only)
Tow Target System, A/A37U - 15 (including TDU 10/B Target)

ARRANGEMENT

SECTION I, DESCRIPTION

Section I describes weapons delivery modes and weapons suspension, aiming, and release systems and contains brief physical and functional descriptions of weapons and weapons components. The information is designed to acquaint the aircrew with weapon and aircraft characteristics which influence delivery and with the systems that control the aiming and release of weapons.

SECTION II, NORMAL PROCEDURES

Section II presents preflight, inflight, and postflight procedures required to perform weapons delivery missions. Procedures for verifying correctness of weapons suspension and modes of fuzing, installed weapons safing and arming, weapons aiming and release, and for recovery with unexpended weapons are included.

SECTION III, EMERGENCY PROCEDURES

Procedures for emergency release and jettison of weapons, dispensers, launchers, and other stores are furnished in section III. Evacuation distance criteria which apply when weapons are involved in fire are also provided.

SECTION IV, SUPPLEMENTARY DATA

Section IV presents information on factors which must be considered when planning weapon delivery missions. Included are safe escape (safe separation) criteria to avoid weapon effect, miss or error analysis, film assessing, atmospheric conversion values, and gun boresighting.

SECTION V, PLANNING PROCEDURES AND SAMPLE PROBLEMS

Weapon delivery mission planning procedures and forms, along with sample problems, are given in section V. Section V, used with the data in section VI, provides a systematic means of dealing with all of the factors that bear on the weapon delivery problem. Procedures and sample problems are presented for each of the delivery modes with explanations of the application of data from the tables in section VI.

SECTION VI, PLANNING CHARTS AND TABLES

Section VI contains planning forms, fuze arming time and safe escape distance tables, angle-of-attack and sight depression angle charts, altimeter and airspeed error correction charts, and tables showing release information for each type of weapon and each delivery mode for variables of delivery angle, altitude, and airspeed.

PUBLICATION DATE

Currency of data is shown by the date which appears on the title page of this manual. Reference to this date should be made when questions arise on manual content. The publication date includes the date of the latest change.

CHECKLIST

The manual contains itemized procedures with necessary amplifications. The checklist contains itemized procedures without the amplification. Primary line items in the weapons delivery manual and checklist are identical. If a formal safety or operational supplement affects your checklist, the affected checklist page will be attached to the supplement.

AUTHORIZED EXTERNAL STORES

For authorized external stores configurations and inflight limitations, refer to flight manual/ supplemental flight manual for your aircraft.

CHANGE SYMBOL

The change symbol, shown by a black line in the outer margin of a paragraph, indicates text changes made to the current change. Changes to illustrations are indicated with a miniature hand.

WARNINGS, CAUTIONS, NOTES

The following definitions apply to Warnings, Cautions, and Notes found throughout this manual.

WARNING

Operating procedures, techniques, etc, which could result in personal injury or loss of life if not carefully followed.

CAUTION

Operating procedures, techniques, etc, which could result in damage to equipment if not carefully followed.

NOTE

An operating procedure, technique, etc, which is considered essential to emphasize.

USE OF WORDS SHALL, WILL, SHOULD, AND MAY

Shall and will are used to indicate a mandatory requirement.

Should is used to indicate a nonmandatory or preferred method of accomplishment.

May is used to indicate an acceptable or suggested method of accomplishment.

LOCAL REPRODUCTION

All charts, forms, data, and tables contained in this manual or based on manual content may be reproduced for local use.

AIRCRAFT CODE SYSTEM

A code system to identify text, illustrations, charts, and procedures peculiar to the following models of the F- 5E and F-5F aircraft is as follows:

a. △1 — Information applicable to the following Air Force serial-numbered aircraft:

F-5E

AF71-1417	thru	AF71-1421
AF72-1386	thru	AF72-1406
AF73-0846	thru	AF73-0888
AF73-0890	thru	
AF73-0892	thru	AF73-0902
AF73-1626	thru	AF73-1646
AF74-0958	thru	AF74-0997
AF74-1445	thru	AF74-1575
AF74-1582	thru	AF74-1617
AF75-0314	thru	AF75-0373
AF75-0442	thru	AF75-0461
AF75-0491	thru	AF75-0527
AF75-0573	thru	AF75-0627
AF76-0471	thru	AF76-0490
AF76-1616	thru	AF76-1639
AF76-1643	thru	AF76-1686
AF77-0328	thru	AF77-0331
AF77-1771	thru	AF77-1777
AF78-0770	thru	AF78-0773
AF78-0789	thru	AF78-0798
AF78-2447	thru	
AF79-1688	thru	AF79-1691
AF79-1698	thru	AF79-1701

F-5F

AF73-0889	thru	
AF73-0891	thru	
AF75-0709	thru	AF75-0711
AF75-0735	thru	AF75-0742
AF75-0753	thru	AF75-0755
AF76-1611	thru	AF76-1615
AF76-1640	thru	AF76-1642
AF77-0336	thru	AF77-0350
AF77-1778	and	AF77-1779
AF78-0774	thru	AF78-0787
AF78-0802	and	AF78-0803
AF78-2435	and	AF78-2436
AF78-2444	thru	AF78-2446
AF79-1709		
AF79-1916	thru	AF79-1919
AF81-0641	and	AF81-0642

b. ⚠2 — Information applicable to the following Air Force serial-numbered aircraft:

F-5E

AF73-0903	thru	AF73-0932
AF75-0462	thru	AF75-0490
AF75-0562	thru	AF75-0572
AF76-1526	thru	AF76-1591
AF77-0332	thru	AF77-0335
AF77-0366	thru	AF77-0379
AF77-1767	thru	AF77-1770
AF78-0028	thru	AF78-0037
AF78-0814	thru	AF78-0821
AF78-0826	thru	AF78-0829
AF78-0865	thru	AF78-0875
AF79-1681	thru	AF79-1687
AF79-1694	thru	AG79-1697
AF79-1702	thru	AF79-1707
AF79-1717	thru	AF79-1720
AF79-1920	thru	AF79-1941
AF80-0299	thru	AF80-0319
AF81-0006	thru	AF81-0019
AF81-0558	thru	AF81-0593
AF81-0632	thru	AF81-0638
AF81-0823	thru	AF81-0857
AF82-0634	thru	AF82-0639
AF82-0644	and	AF82-0645
AF83-0083	thru	AF83-0112
AF84-0183	and	AF84-0184
AF84-0490	and	AF84-0491
AF85-0043	and	AF85-0044
AF85-0057	and	AF85-0058
AF85-1586	thru	AF85-1595

F-5F

AF75-0712	thru	AF75-0731
AF76-1592	thru	AF76-1597
AF77-0359	thru	AF77-0361
AF77-0362	thru	AF77-0365
AF78-0822	thru	AF78-0825
AF78-0876	thru	AF78-0884
AF79-1692	and	AF79-1693
AF79-1708		
AF79-1721	thru	AF791726
AF79-1916	thru	AF79-1919
AF79-1942	thru	AF79-1945
AF80-0296	thru	AF80-0298
AF81-0594	thru	AF81-0615
AF81-0639	thru	AF81-0640
AF81-0858	thru	AF81-0863
AF82-0004	and	AF82-0005
AF82-0089	thru	AF82-0091
AF82-0187	thru	AF82-0189
AF82-0640	thru	AF82-0643
AF83-0072	thru	AF83-0074
AF83-0113	thru	AF83-0142
AF84-0456	and	AF84-0457
AF85-0053	thru	AF85-0056

c. Text, illustrations, and charts applicable to all models of aircraft are not coded.

d. Text, illustrations, and charts applicable to the individual model aircraft are identified as F-5E or F-5F, or Ⓔ and Ⓕ, respectively.

e. When complete paragraphs are affected, the appropriate code will appear opposite the heading.

f. Notes, cautions, and warnings are treated as individual paragraphs with regard to coding.

g. Steps of a procedure the code preceding the action item when the procedure applies to individual model aircraft.

YOUR RESPONSIBILITY — TO LET US KNOW

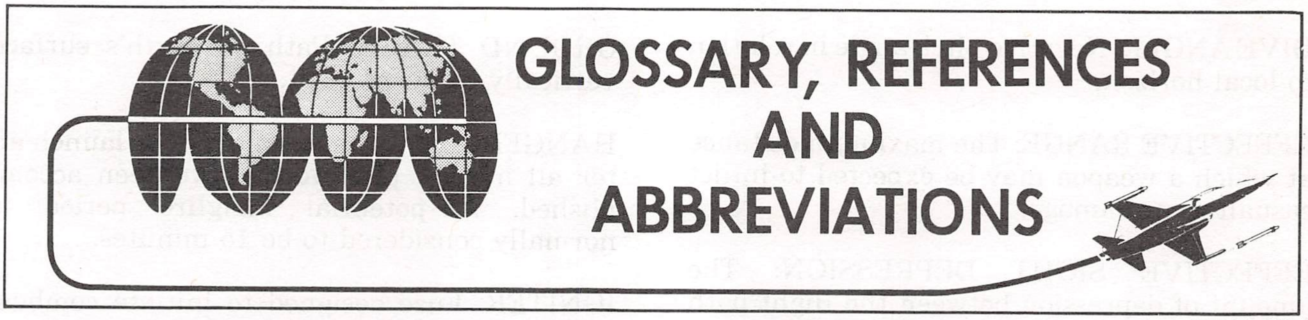
Comments, corrections, and questions regarding this manual are welcome. Any deficiencies, comments or recommendations for changes should be submitted on AF Form 847 and forwarded in accordance with T.O. 00-5-1 thru your Command Headquarters to San Antonio ALC/LASF, 485 Quentin Roosevelt Rd., Ste 1 , Kelly AFB, TX 78241-6420.

TIME COMPLIANCE TECHNICAL ORDERS

The following TCTOs and ECPs are applicable to this manual. Reference to T.O. or ECP number within brackets [ ] in the text and illustrations of this manual requires referral to this list. TCTOs not yet released, or those known to be completed, are not included. Referenced TCTOs will be deleted from this list after one year beyond the rescission date published on the TCTO or supplement extension, if issued. For a complete list of TCTOs affecting F-5E/F aircraft, refer to Technical Order Indexes, T.O. 0-1-1-4, T.O. 0-1-71 and supplements thereto.

T.O. NUMBER	TITLE	PRODUCTION EFFECTIVITY	RETROFIT EFFECTIVITY
1F-5-873	AIM-9 Tone Switchology (ECP 321)	E AF79-1920 thru AF79-1925 AF80-0302 and later F AF81-0594 and later	E AF71-1417 thru AF71-1421 AF72-1386 thru AF72-1406 AF73-0846 and AF73-0847 AF73-0855 AF73-0858 AF73-0865 and AF73-0866 AF73-0868 AF73-0872 AF73-0879 AF73-0881 thru AF73-0888 AF73-0890 AF73-0893 thru AF73-0897 AF73-0899 thru AF73-0900 AF73-0903 thru AF73-0932 AF73-1626 AF73-1629 thru AF73-1636 AF73-1640 thru AF73-1646 AF74-0958 thru AF74-0997 AF74-1445 thru AF74-1519 AF74-1528 thru AF74-1575 AF75-0314 thru AF75-0373 AF75-0457 thru AF75-0527 AF75-0562 thru AF75-0627 AF76-0472 thru AF76-0490 AF76-1526 thru AF76-1591 AF76-1616 thru AF76-1639 AF76-1643 thru AF76-1685 AF77-0328 thru AF77-0335 AF77-0366 thru AF77-0379 AF77-1767 thru AF77-1777 AF78-0028 thru AF78-0037 AF78-0770 thru AF78-0773 AF78-0789 thru AF78-0798 AF78-0814 thru AF78-0821 AF78-0826 thru AF78-0829 AF78-0865 thru AF78-0875 AF78-2447 AF79-1681 thru AF79-1691 AF79-1694 thru AF79-1707

T.O. NUMBER	TITLE	PRODUCTION EFFECTIVITY	RETROFIT EFFECTIVITY
			AF79-1717 thru AF79-1719 AF79-1926 thru AF79-1941 AF80-0299 thru AF80-0301 F AF73-0889 and AF73-0891 AF75-0735 thru AF75-0742 AF75-0753 thru AF75-0755 AF76-1592 thru AF76-1597 AF76-1611 thru AF76-1615 AF76-1640 thru AF76-1642 AF77-0336 thru AF77-0350 AF77-0359 thru AF77-0361 AF77-1778 and AF77-1779 AF78-0774 thru AF78-0787 AF78-0802 and AF78-0803 AF78-0822 thru AF78-0825 AF78-0876 thru AF78-0884 AF78-2435 and AF78-2436 AF78-2444 thru AF78-2446 AF79-1692 and AF79-1693 AF79-1708 and AF79-1709 AF79-1721 thru AF79-1726 AF79-1916 thru AF79-1919 AF79-1942 thru AF79-1945 AF80-0296 thru AF80-0298
1F-5E-630	Aggressor F-5E Radar Upgrade		E AF71-01418 AF72-01386 AF73-00855 AF73-00865 AF73-00879 AF73-00885 AF73-01635 AF74-01528 thru AF74-01531 AF74-01536 AF74-01537 AF74-01539 thru AF74-01541 AF74-01558 AF74-01564 AF74-01567 AF74-01570 AF74-01572 AF74-01573



GLOSSARY, REFERENCES AND ABBREVIATIONS

F-5 34-8(1)A

GLOSSARY

ADVERSE YAW: A yaw opposite to the direction of turn induced by rolling motion and aileron deflection. The yaw moment is greatest at high angles of attack and full aileron deflections.

AIM OFF DISTANCE: The ground distance subtended by the depression from flight path. At release this represents the distance between the flight path intersect point and the target.

AIMPOINT: Preplanned sight pipper alignment point on or near the target for weapon release.

AIRCRAFT AXES: There are three axes which are mutually perpendicular and have a common point of intersection at the CG:

a. Longitudinal axis: Parallel to the fuselage reference line. The aircraft rotates about this axis when rolling.

b. Vertical axis: The aircraft rotates about this axis when yawing.

c. Lateral axis: Parallel to a line thru the wingtips. The aircraft rotates about this axis when changing angle of attack.

ANGLE OF ATTACK (AOA): The angle between the chord line and aircraft flight path or velocity vector.

ANGLE OF INCIDENCE: A fixed angle between the wing chord line and the fuselage reference line.

BALL AMMUNITION: Inert projectile.

BOMB RANGE: Horizontal distance of bomb travel after release.

BOMB TRAJECTORY: The path of a bomb with reference to the airmass from release to detonation. The trajectory is the result of bomb ballistics, release velocity, release angle, and release height above burst or impact.

BORESIGHT: To align gun by means of optical sighting on a target.

BULLET DENSITY: Number of rounds passing thru a 1-square-foot area per unit of time.

BULLET DISPERSION: Deviation of bullet impact about the mean point of impact.

C_L MAX: Maximum coefficient of lift.

COSINE: The trigonometric function that for an acute angle in a right triangle is the ratio between the side adjacent to the angle and the hypotenuse.

CORRECTED SIGHT DEPRESSION: True sight depression corrected for rangewind.

DELAY ELEMENT: Fuze component-explosive train relay unit with designed burn time.

DELTA MACH: The difference between fighter mach number and the target mach number.

DEMOLITION: The destruction of structures, facilities, or material by use of explosives or other means.

DEPRESSED SIGHT LINE: A line that results from looking thru the pipper after the sight has been depressed.

DETONATOR: Fuze component-explosive train igniter relay unit.

DIVE ANGLE: Negative pitch angle in relation to local horizon.

EFFECTIVE RANGE: The maximum distance at which a weapon may be expected to inflict casualties or damage.

EFFECTIVE SIGHT DEPRESSION: The amount of depression between the flight path and the depressed sight line. Effective and required sight depression are the same when preplanned release conditions are met.

FIELD-OF-VIEW: The area in which the image is visible in Laser-Guided Bomb (LGB) detector.

FIXED BORELINE (FBL): An imaginary line projected thru the gun barrel to infinity parallel to the ZSL.

FLIGHT PATH (FP): Path of aircraft with reference to airmass (aircraft attitude minus angle of attack).

FLIGHT PATH IMPACT POINT: See Aim Off Distance.

FRAG: Fragmentation (designed shrapnel effect).

F-STOP: A numerical value used to calibrate the diaphragm of a camera and controls the amount of light passing thru the aperture.

FUSELAGE ANGLE OF ATTACK: Angle between fuselage reference line and flight path in mils.

FUSELAGE REFERENCE LINE (FRL): A basic reference line extending thru the fuselage parallel to the longitudinal axis of the aircraft.

FUZE: Munition device designed to provide controlled detonation.

G: Gravitational acceleration 32.16 ft/sec/sec.

GIMBAL LIMIT: The operational limits vertically or horizontally for radar antenna, sight reticle.

GRAVITY DROP: The effect of gravity on a bullet/missile trajectory.

GROUND TRACK: Path on earth's surface vertically below aircraft.

HANGFIRE: When a missile fails to launch after all normal procedures have been accomplished. A potential hangfire period is normally considered to be 15 minutes.

IGNITER: Fuze designed to initiate combustion of fire bombs.

INCENDIARY: Material designed to start local combustion.

LAUNCHER LINE: An imaginary line projected thru the rocket launcher tube to infinity.

LEAD: The distance between the moving target and the point at which the gun is aimed so as to hit the target.

LINEAR ACCELERATION: A change in velocity or rate of such change measured in one direction.

MACH: Mach number (M). Ratio of true airspeed to speed of sound.

MEAN PARALLAX: The average linear or vertical distance or separation between sight and guns.

MIL: Angular measurement that subtends 1 foot at 1000 feet.

MISFIRE: A time starting 15 minutes after missile hangfire (attempted launch) condition during which no smoldering occurred.

MSEC: Milliseconds, one msec = 0.001 second.

PARALLAX ERROR: The error induced by the horizontal and vertical distance between the sight to gun, launcher, or bomb rack.

PASSIVE HOMING GUIDANCE: A system of homing guidance wherein the receiver in the missile utilizes radiation from the target. The missile does not transmit a signal that can be detected by the target.

PIPPER: The 2-mil diameter aiming reference in the center of the optical sight reticle.

POP UP: A rapid climb from a lower altitude to an entry or attack position.

PRESSURE ALTITUDE: Altitude read on the pressure altimeter when set on 29.92 inches mercury.

PREDICTION ANGLE: Total lead angle required after calculation for target motion, trajectory shift, gravity drop, and air density.

PROXIMITY FUZE: Munition fuze design and capability to detonate ordnance prior to target contact.

RADAR SIGNATURE: The radar reflectivity pattern of a specific aircraft from different angles.

RANGEWIND: Headwind or tailwind component.

REQUIRED SIGHT DEPRESSION: The amount of depression below FP necessary to produce an effective sight picture, determined by flight conditions of dive angle, airspeed, and release altitude.

RESULTANT FORCE: A single force whose direction and magnitude results from several combined forces.

RIPPLE: Sequential multiple release.

SAT: Safe air travel. Bomb linear fall distance before arming.

SIGHT DEPRESSION: Total sight depression. The angle between the zero sight line (ZSL) and the depressed sight line.

SIGHT DEPRESSION FROM FP: The optical sight depression value in mils minus ZSL angle of attack.

SIGHT PICTURE: The relationship of the pipper position to the target.

SINE: The trigonometric function that for an acute angle in a right triangle is the ratio of the side opposite the angle to the hypotenuse.

SLANT RANGE: The line of sight distance between two points not at the same elevation.

SNAKEYE (SE): Fin-retarded GP bomb.

TANGENT: The trigonometric function that for an acute angle in a right triangle is the ratio of the side opposite to the side adjacent.

TARGET ELEVATION: Height of target above MSL.

TNT: Trinitrotoluene. Cast loadable, general-purpose explosive compound.

TOTAL G: Radial-G plus or minus component of 1-G gravity.

TOTAL SIGHT DEPRESSION: The sight setting which includes the angle between the zero sight line and the depressed sight line.

TRAJECTORY: Final path of a munition with reference to the airmass considering all effective factors.

TRAJECTORY SHIFT: Angular deviation of bullet trajectory from fixed boreline toward aircraft FP.

TRITONAL: Explosive mixture of TNT and aluminum powder, used primarily for blast effect.

VELOCITY JUMP: The angle thru which a rocket rotates, in the vertical plane, as it shifts into the relative wind. The magnitude of the angle determines the LOD, which is obtained by taking the product of the launch factor (F) and the (LL) angle of attack.

VT: Radio proximity. Fuze designation.

ZERO SIGHT LINE (ZSL): The base or zero line for all sight computations before parallax correction. In the F-5E and F-5F, the ZSL is parallel to the armament reference line (ARL) and fixed bore line (FBL) and is 2 degrees below the fuselage reference line (FRL).

REFERENCES

AIR FORCE REGULATIONS

127-100	Explosive Safety Standard

AIR FORCE MANUALS

3-1	Tactical Fighter Weapons Employment

AIR FORCE TECHNICAL ORDERS (T.O.s)

10A1-2-9-1	Model KB-26A (16MM Motion Picture Camera)
11-1-34	Aircraft Explosive Items
11A-1-33	Handling and Maint of Explosives Loaded Aircraft
11A-1-42	General Instructions for Disposal of Conventional Munitions
11A-1-46	Fire Fighting Guidance...
11A1-2-7	Bombs, Explosives — Series M117
11A1-5-7	Bombs, Explosives — Series MK82
11A1-6-7	Bombs, Explosives — Series MK83
11A1-7-7	Bombs, Explosives — Series MK84
11A2-3-7	Bombs, Incendiary — Series BLU-27, BLU-32
11A2-4-7	Bombs, Incendiary — Series BLU-1...
11A3-2-7	Bombs, Leaflet, 750-Pound — Series M129
11A3-3-7	Bombs, Practice and Leaflet — Series BDU-33
11A4-5-7	Arming Eqpt and Bomb Suspension Lugs
11A5-8-7	MK-36...
11A6-9-7	Series M131, MAU103, MAU93, MAU94, M132, M140, M148, MK83, MK84 (Conical Fins)
11A6-10-7	MAU-91, MK-15 (Retarder Fins)
11A6-11-7	MXU-393, MXU-467, MXU469 (Fire Bomb Fins)
11A6-12-7	Type MXU-650/B, -651/B, -667/B (Guided Bomb Airfoil Groups)
11A7-9-7	Type FMU-26/B, -26A/B, -26B/B (Bomb Fuze)
11A7-10-7	Type FMU-72/B (Bomb Fuze)
11A7-11-7	Type FMU-30/B (Land Mine Fuze)
11A7-12-7	Series FMU-54 (Internal Bomb, Fuze, Tail)
11A7-14-7	Series FMU-56 (Proximity Fuze)
11A7-17-7	Series FMU-81 (Bomb Fuze)
11A7-18-7	Series M907 (Fuze, Bomb, Nose)
11A7-21-7	Series M904, M905 (Fuzes, Bomb, Nose)
11A7-22-7	Series FMU-7
11A7-24-7	Series FMU-110 (Fuze, Proximity)
11A7-25-7	Series FMU-113 (Fuze, Proximity)
11A7-27-7	Type FMU-107/B (M147A1 Fuze)
11A9-19-7	Series CBU-24, -29, -49, -52, -58, -70, -71 (Dispenser and Bomb)
11A10-24-7	Pyrotechnic Flares (Aircraft Parachute Flares)
11A10-28-7	(Infrared) Tracking Flares
11A10-33-7	Target Marker Flares
11A11-24-7	Aircraft Rockets
11A13-4-7	Gun Ammunition — 20MM
11A15-1-157	Explosive Components, AIM-9B/E/J/P/L
11A18-7-7	Impulse and Dummy Cartridges
11A18-19-7	Pylon Explosive Jettison Sets

11A20-10-7	Blasting Caps and Squibs
11A21-3-7	Type SUU-25A/A (Flare Dispenser)
11A21-5-7	Type SUU-25C/A (Flare Dispenser)
11A21-7-7	Type SUU-25E/A (Flare Dispenser)
11B29-3-8-3	Type MA-4A ... (Acft Bomb Rack)
11B29-3-28-1	Type SUU-20 (Bomb and Rocket Dispenser)
11B29-3-39-2	Type MAU-40/A (Rack, Bomb Ejector Aircraft)
11B29-3-40-2	Type MAU-50/A (Rack, Bomb Ejector Aircraft)
11C2-1-7	Fire Bombs
11F1-APQ153-2	AN/APQ-153 (Fire Control Radar)
11F1-APQ157-2	AN/APQ-157 (Fire Control Radar)
11F1-APQ159-2	Type APQ159 (Radar Set)
11F1-ASG29-2	AN/ASG-29 (Lead Computing Optical Sight Sys)
11F1-ASG31-2	AN/ASG-31 (Lead Computing Optical Sight Sys)
11G7-7-2-7	Computer Control Group MAU-169C/B
11K10-2-7	Type GBU-10, GBU-12 Series (Laser-Guided General Purpose Bombs)
11L1-3-21-1	Type LAU-3/A (Airborne Rocket Launcher)
11L1-3-27-1	Type LAU-68A/A, -68B/A (Airborne Rocket Launcher)
11W1-12-3-14	Type M39A2, M39A3 (Automatic Gun)
12P3-2ALR46-2	Type AN/ALR-46 (Countermeasures Receiver)
21M-AIM9B-2	Model AIM-9 — Series B (Sidewinder)
21M-AIM9P-2	Model AIM-9 — Series P (Sidewinder) (AIM9E, AIM9J, AIM9N, AIM9P)
43E11-10-2	Type TDU-10B (Aerial Tow Target)
43E11-17-1	Type A/A37U-15 (Tow Sys)

F-5E/F TECHNICAL ORDERS

1F-5E-1	Flight Manual
1F-5E-2-10/ 1F-5F-2-10	Series, Organizational Maintenance-Armament
1F-5E-33-1-1	Munitions Basic Information
1F-5E-33-1-2	Munitions Loading Procedures
60J-2-2-3	Explosive Ordnance Disposal

ABBREVIATIONS

A

A/A	Air-to-Air
ABV	Above
ACCEL or ACCL	Acceleration
ACFT	Aircraft
ACQ	Acquisition
ACT	Activity
ADI	Attitude Director Indicator
ADL	Armament Data Line
AF	Air Force
AFR	Air Force Regulation
AGL	Above Ground Level
AHRS	Attitude Heading Reference System
AI	Attitude Indicator
AIM	Air Launched, Intercept-Aerial, Guided Missile
ALT	Altitude
AMMO	Ammunition
ANG	Angle
AOA	Angle of Attack
AOD	Aim-Off Distance
AOP	Aim-Off Point
API	Armor Piercing Incendiary
APPROX	Approximate(ly)
ARL	Armament Reference Line
ARMT	Armament
AUTO	Automatic

B

BDU	Bomb Dummy Unit
BFD	Battery Firing Device
BIT	Built-In-Test
BLU	Bomb Live Unit
BRT	Bright

C

C	Centigrade (Celsius)
CADC	Central Air Data Computer
CAMR	Camera
CAS	Calibrated Airspeed
CBU	Cluster Bomb Unit
CCG	Computer Control Group
CCW	Counterclockwise
CDF	Confined Detonating Fuze
CEA	Circular Error Average
CEP	Circular Error Probable
CG	Center of Gravity
CL	Centerline
CL MAX	Maximum Coefficient of Lift
COMM	Communication
COMP	Composition
CONT	Control
CONTD	Continued
COS	Cosine
COT	Cotangent
CR	Cruise
CRT	Cathode Ray Tube
CW	Clockwise

D

DEG	Degree
DEP or DEPR	Depression
DF	Dogfight
DFP	Depression from Flight Path
DG	Dogfight Gun
DISP	Dispenser
DM	Dogfight Missile

E

ECM	Electronic Countermeasures
ECP	Engineering Change Proposal
ELEV	Elevation
EMER	Emergency
EMER ALL JETT	Emergency All Jettison
EOD	Explosive Ordnance Disposal
EQPT	Equipment
ETC	Et Cetera (and so forth)
EX-G	Excess g
EXT	External

F

F	Finned or Launch Factor
FBL	Fixed Boreline
FCR	Fire Control Radar
FFAR	Folding Fin Aircraft Rocket

FOD Foreign Object Damage
FOV Field-of-View
FP Flight Path
FPS Frames per Second
FRAG Fragment(ation)
FRL Fuselage Reference Line
FT Feet
FWD Forward
FXD Fixed

G

G Acceleration of Gravity
G & C Guidance and Control
GAL Gallon
GBL Gun Bore Line
GBU Guided Bomb Unit
GCI Ground Controlled Intercept(ion)
GLC Gyro Lead Computer
GND Ground
GP General Purpose
GYRO Gyroscope

H

HE High Explosive
HEAT High Explosive Antitank
HEI High Explosive Incendiary
HEI-T High Explosive Incendiary-Tracer
Hg Mercury
HOB Height of Burst
HVAR High Velocity Aircraft Rocket

I

ICT Inert Captive Trainer
IN Inch
INBD Inboard
IN RNG In Range
INT Intensity
INTLK Interlock
IR Infrared

J

JETT Jettison

K

KCAS Knots Calibrated Airspeed
KIAS Knots Indicated Airspeed
KT(S) Knots
KTAS Knots True Airspeed

L

L Left
LAU Launcher
LB Pound
LCOSS Lead Computing Optical Sight System
LD Low drag
LDGP Low Drag General Purpose
LGB Laser-Guided Bomb
LI Left Inboard
LK ON Lock-on
LL Launcher Line
LO Left Outboard
LOD Line of Departure
LOS Line of Sight
LT Light
LTD Laser Target Designator

M

M Mach Number
MAN Maneuvering or Manual
MAX Maximum
MER Multiple Ejector Rack
MFBL Mean Fixed Bore Line
MFG Manufacturer
MIL Military or Milliradian
MIN Minimum or Minute
MK Mark
MM Millimeter
MOD Modified
MOM Momentarily
MPH Miles per Hour
MSEC Millisecond
MSL Mean Sea Level or Missile

N

N Nose or Number
NAV Navigation
NAVORD Naval Ordnance Systems Command
NEG Negative
NM Nautical Mile
NM/LB Nautical Miles per Pound
NO Number

O

ODU	Optical Display Unit
OPER	Operate
OUTBD	Outboard

P

PER	Persistence
PK	Probability of Kill
PL	Pattern Length
PMI	Pearlite, Malleable Iron
PNEU	Pneumatic
PNL	Panel
PRESS	Pressure
PWR	Power

Q

QTY	Quantity

R

R	Right or Range
RBL	Radar Boresight Line
RECON	Reconnaissance
REL	Release
REP	Range Error Probability
RET	Retard(ed) or Reticle
RET DEPR	Reticle Depression
RET INT	Reticle Intensity
RI	Right Inboard
RIPL	Ripple
RKT	Rocket
RKT/DISP	Rocket/Dispenser
RNG	Range
RO	Right Outboard
RWR	Radar Warning Receiver

S

SAT	Safe Air Travel
SE	Snakeye
SEC	Seconds
SEL	Select(or)
SIN	Sine
SL	Sea Level
SR	Slant Range
SST	Safe Separation Time
STBY	Standby
SW	Switch
SYS	System

T

T	Tail
TAN	Tangent
TAS	True Airspeed
TCTO	Time Compliance Technical Order
TDC	Target Designator Control
TDU	Target Dummy Unit
TEMP	Temperature
TER	Triple Ejector Rack
TF	Time of Flight
TGT	Target
TK	Tank
TMN	True Mach Number
TN	Computer Time
TNT	Trinitroluene
T.O.	Technical Order
TOF	Time of Flight
TP	Target Practice/Ball
TP-T	Ball-Tracer
TRANS	Transfer

U

U	Unfinned
USAF	United States Air Force

V

VEL	Velocity
VT	Proximity Fuze

W

W	With
WO	Without
WP	White Phosphorus
WPN	Weapon
WT	Weight
W/WO	With or Without

Z

ZSL	Zero Sight Line

DESCRIPTION

SECTION I

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WEAPON SYSTEM AND CONTROLS

WEAPON SUSPENSION SYSTEM

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MISSION DESCRIPTION

AIR-TO-AIR GUN ATTACK

In the air-to-air gun attack the 20mm guns are used in conjunction with the fire control radar (FCR) and the two air-to-air gun modes of the lead computing optical sight system (LCOSS) to achieve weapons impact on the target. The mode selected depends on target tactics and defensive maneuvers. In either mode, closing to short ranges (less than 2700 feet) reduces projectile dispersion, and smooth aircraft control increases effectiveness.

AIR-TO-AIR MISSILE ATTACK

The missile attack against airborne targets using the AIM-9 can be performed either head-down, using the FCR display; head-up, using the FCR and LCOSS; or head up, using visual sighting range estimation and the optical sight for aiming. The visual attack is the least effective due to the difficulty of estimating correct launch parameters. To insure firing within launch parameters, the LCOSS reticle and the FCR indicator provide an aiming reference, in-range, minimum range, and within-g indications for both head-up and head-down attack. Specific fighter tactics depend on target tactics and defensive capabilities, but in general, the fighter should be maneuvered to a short range, low angle-off, stern position with overtake speed to allow optimum missile performance. The AIM-9 missiles are self-guided heatseeking weapons which sense infrared (IR) radiation sources. Positioning for the missile attack need not be so precise as when using guns, because of the homing and maneuver capability of the missile. However, the attack is limited in the angle-off parameter due to missile seeker head movement limits (look angle) and limitations in missile aerodynamic control. These factors, plus missile range, air density, fuze arming time, and attacking aircraft/target speed differential, restrict missile launch to an envelope outlined in figure 1-1. The AIM-9P-4 has all-aspect capability.

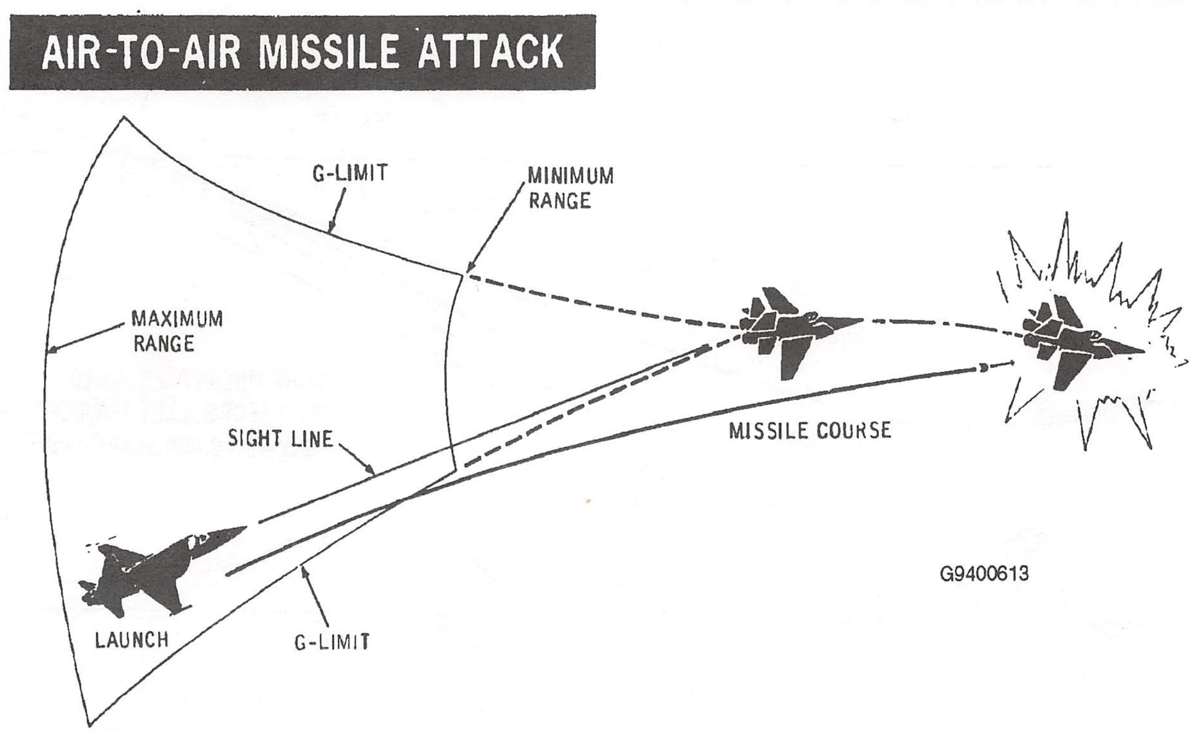


Figure 1-1.

AIR-TO-GROUND GUN ATTACK

The gun attack (figure 1-2) against surface targets, commonly known as strafing, is a versatile and accurate method of delivering ordnance and is effective against a wide variety of targets. Attack speed, firing altitude, and dive angle can be varied with relatively small effect on accuracy. Distance to the target (slant range) at firing, which determines the amount of time that gravity will act on the round, is the primary factor affecting accuracy. The attack may be initiated from an angle-off or straight-ahead approach, and the dive angle may be varied to fit, the particular target situation. Key to the attack is the roll-in or initial dive to the target, which determines the values that can be attained in dive angle, airspeed, and slant range. The lower dive angles (5 to 15 degrees) are generally more effective, due to ease in tracking and an increase in the amount of ordnance that may be effectively placed on the target during a single firing pass. A steeper, high-speed approach with early recovery may be planned for attacks in heavily defended areas. Recovery considerations when planning the air-to-ground attack are terrain clearance and round ricochet, fragmentation cloud, and target explosion avoidance. Gravity drop of the round is compensated for by selecting the appropriate sight depression angle for the attack which adjusts the piper with respect to the gun bore line. The sight is depressed so that the piper position and round impact are coincident at the selected firing slant range. The piper is roll-stabilized to provide a stable and accurate aiming reference during rolling motion. Although the effect is small, both rangewind and crosswind affect the strafing attack and must be compensated for by adjusting depression and/or offset aiming.

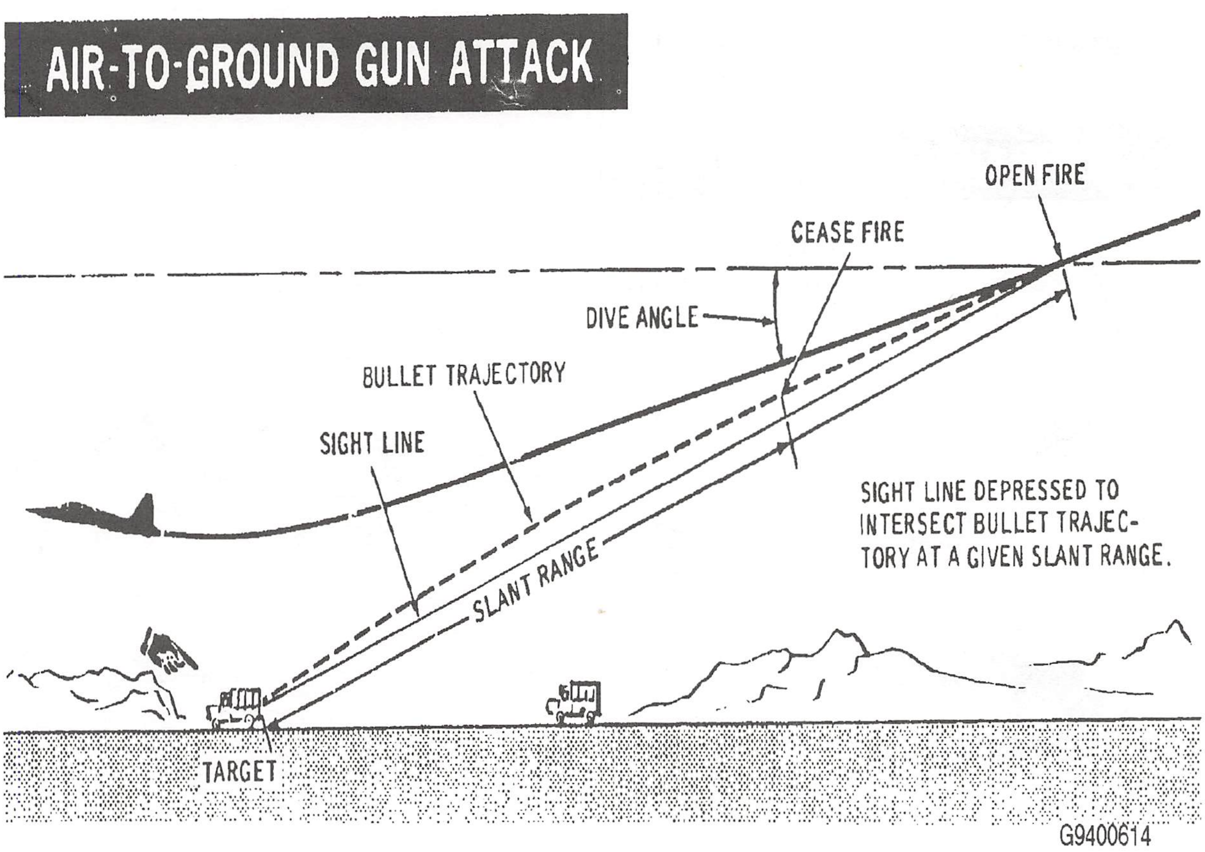


Figure 1-2.

BOMB DELIVERY

For accurate delivery of bombs, the aircraft must be placed at the predetermined release point at preplanned dive angle, airspeed and sight setting. Position at the release point is determined by reference to the optical sight, which has been depressed a calculated amount from the armament reference line (ARL), and to the altimeter. Due to the effects of aerodynamic drag and gravity, the bomb falls in the curved trajectory illustrated in figure 1-3. The bomb falls short of the target if released on the flight path line to the target. The flight path is projected beyond the target a sufficient distance to compensate for the curved trajectory of the bomb by depressing the sight line an amount appropriate for the planned release conditions and releasing the bomb upon the intersection of the sight line and target. Because of wind effect on the aircraft at bomb release, affecting the trajectory of the bomb, it is important that the pilot have knowledge of wind velocity and direction at release altitude. Determination of an indicated release altitude should consider altimeter position error, altitude loss during pullout, minimum aircraft ground clearance, altimeter lag, and target elevation. To these must be added consideration of fragment envelope clearance and fuze arming time when performing low level attacks. The altimeter is set to target area current altimeter setting.

DIVE BOMBING

Dive bomb tables provide trajectory data for dive angles of 0 thru 60 degrees for the general purpose bomb categories. Wind effect, when known, can be compensated for by using an offset aiming point determined by wind direction and correction factors found in the dive bomb tables.

DIVE BOMBING

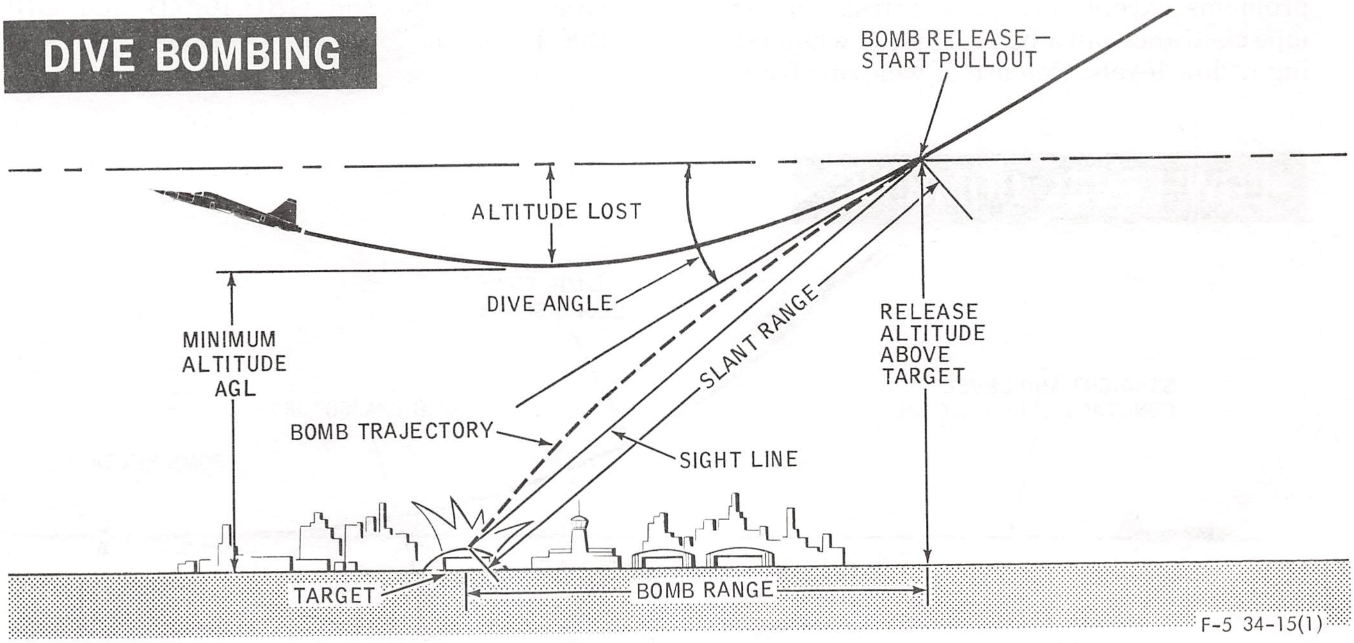


Figure 1-3.

LEVEL BOMBING

Considerations when planning and executing a level bomb attack are essentially the same as those used in dive bombing. Selected and computed values for airspeed, altitude, and distance to the target must be attained at the predetermined release point to obtain an accurate attack. Accuracy is most seriously affected by variations in altitude and attitude (pitch). As noted for the dive bombing mission, wind effect must be considered when determining the release point. Wind correction can be accomplished by using a crabbed approach to the target or a drifting approach with an offset aimpoint. Rangewind component (headwind or tailwind) may be compensated for by adjusting the sight depression in either the crabbed or drifting approach. Wind correction factors are discussed in Section V. Low drag or high drag bombs may be released from a level approach at either low or high altitudes. Sight setting tables for level release at various altitudes are provided in section VI. Recovery from the level bomb attack does not pose any special planning problems except terrain and fragment envelope clearance must be considered when releasing at low levels. Release of weapons from the low level approach shall be followed by a straight-ahead level constant speed departure or an immediate MIL power 4.0g pullup, attained within 2 seconds of release (figure 1-4).

LASER-GUIDED BOMB DELIVERY

The laser-guided bomb (LGB) is delivered in much the same manner as conventional unguided bombs except that a source of laser energy is required to illuminate desired target. The attack aircraft should be placed at the predetermined release point, at the selected dive angle and airspeed. After release, the bomb falls ballistically until reflected laser energy is sufficient to initiate guidance. The bomb guidance system, sensing the laser energy, derives azimuth and elevation steering commands for the movable guidance fins to provide steering to the point of maximum reflected energy (figure 1-5).

Refer to classified supplement T.O. 1F-5E-34-1-1-5 (Confidential) for a complete description of LGB release considerations and planning tables for the GBU-10F/B and GBU-12E/B bombs.

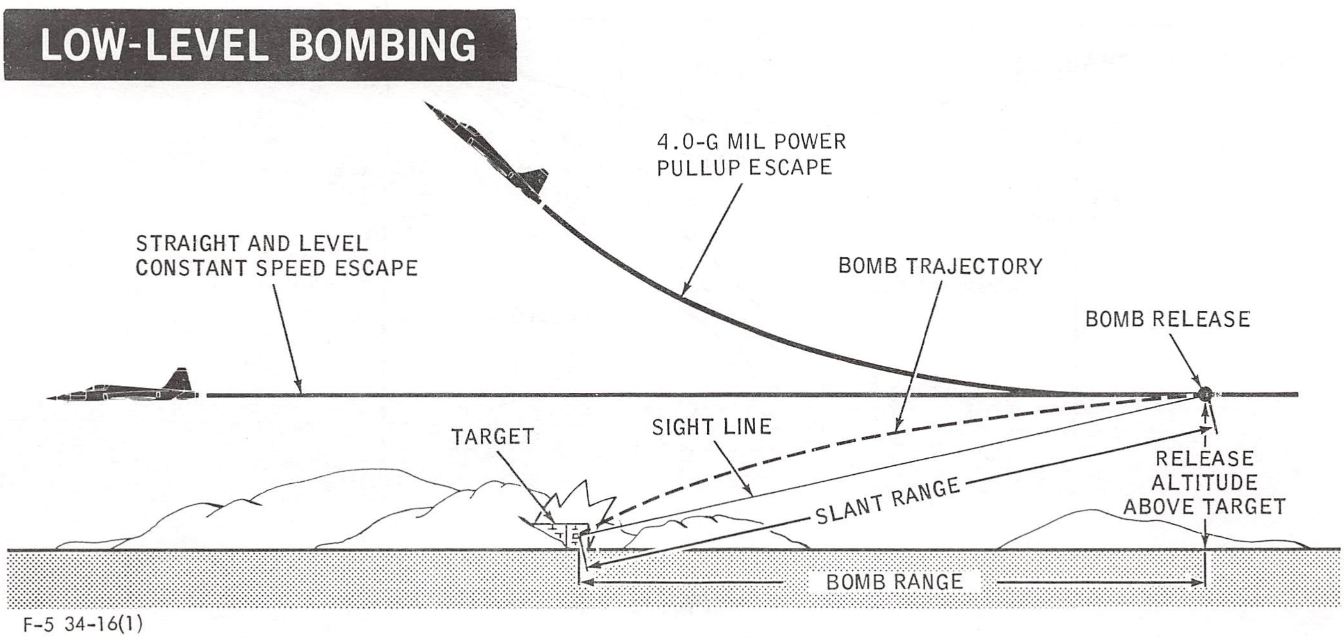


Figure 1-4.

LGB DELIVERY (TYPICAL)

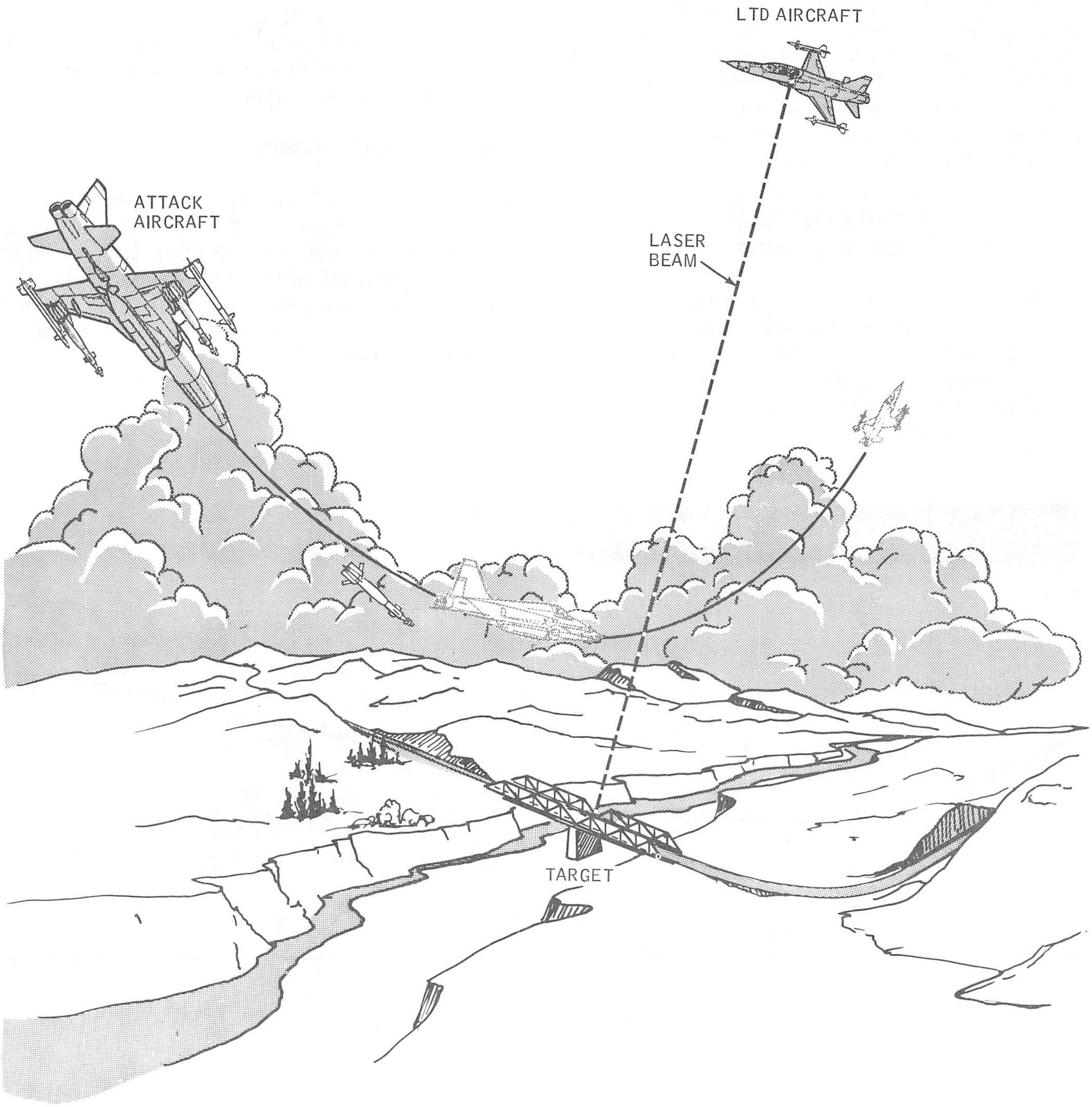


Figure 1-5.

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HIGH-DRAG GP BOMB DELIVERY

The MK-82 Snakeye I GP bomb and MK-36 destructor can be delivered from level flight or from a dive, depending upon airspeed, fuzing limitation, fragmentation envelope, and dive angle. Ballistic tables are furnished for altitudes of 100 thru 3000 feet above target elevation and dive angles from 0 to 30 degrees. The high-drag characteristic provided by the opening of the retarding fins reduces the bomb range (horizontal) and increases the bomb time of fall and impact angle, MK-82 Snakeye and MK-36 deliveries should always be planned to include an immediate 4.0g pullup or 4.0g banked turn escape maneuver.

WARNING

- A 4.0g pullup or a 4.0g banked turn escape maneuver immediately after bomb release is required to provide a margin of safety in the event of retarding fin failure resulting in a low-drag bomb trajectory.
- Do not fly over or near burst area within 20 seconds of detonation as aircraft damage can result from flying debris.
- During training missions, at least 20-seconds spacing between aircraft must be observed when inert or sand-filled bombs are released. Observing the 20-second spacing between aircraft prevents bomb-to-aircraft collision in the event a bomb releases low drag and ricochets into the air after impact.

RIPPLE RELEASE BOMBING

Bombs may be released from all pylon stations in automatic sequence at three different time intervals selectable by the pilot. Release may be accomplished from a level approach or in the dive mode illustrated in figure 1-6. Ripple-release tables provide data for dive angles 0 thru 60 degrees.

RIPPLE RELEASE BOMBING

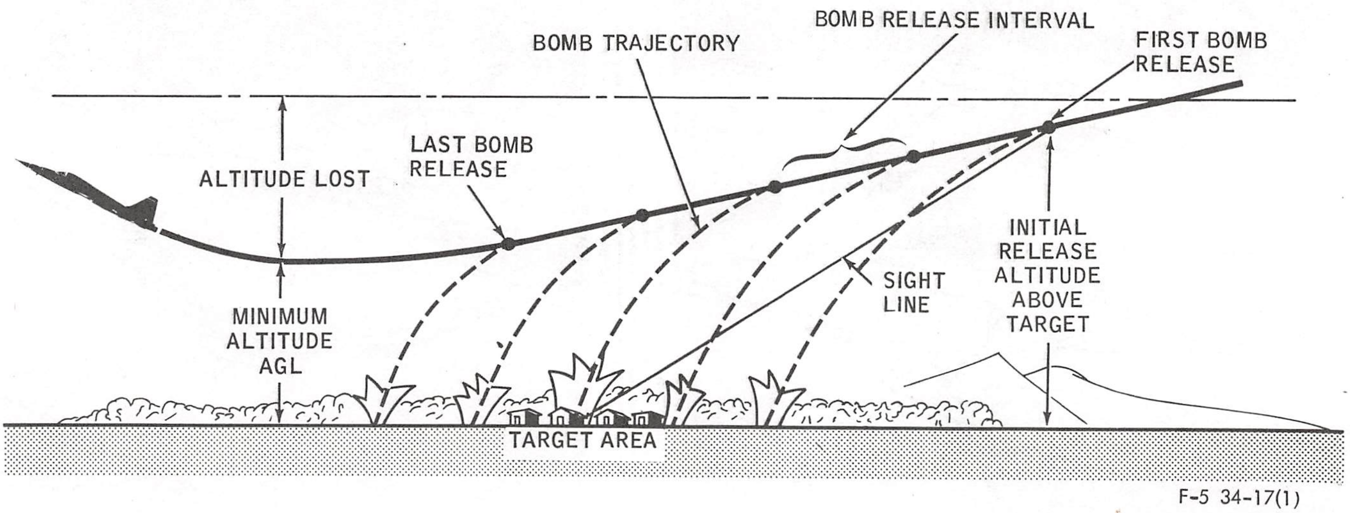


Figure 1-6.

Ripple release delivery is identical to single bomb release except for the following additional factors:

a. Safe escape and dive recovery must be based on the release altitude of the last bomb.

b. The sight setting or bomb range is computed to place the center of the impact pattern on target.

c. Wind correction is based on the time of fall of the first bomb released.

d. The minimum release altitude for a level ripple release is based on a straight ahead escape maneuver.

e. During ripple release, a straight line flight path should be maintained. When the pipper is on target, the weapon release button is pressed. The pipper should pass beyond the target during the ripple release, while a straight line flight path is maintained.

The average ground impact spacing (S) can be determined from the ripple release tables or may be computed by dividing the impact pattern length (PL) by the number of bombs to be released minus one (N-1):

$$S = \frac{PL}{(N-1)}$$

WARNING

The release altitude of the last bomb in the ripple must be greater than the minimum release altitude required for fuze arming, safe escape from bomb fragmentation, and adequate ground clearance during recovery.

FIRE BOMB DELIVERY

Fire bombs may be released from level flight or from a dive, depending on target characteristics and terrain features.

a. Low-level bombing consists of a low-altitude level approach to the aimpoint, maintaining a predetermined release airspeed and altitude. During the low-level delivery, release airspeed and height above the target are established during level flight approach to the target. Ballistic tables are furnished for altitudes of 50 thru 2000 feet above target elevation.

b. Dive bombing consists of a dive approach at a predetermined release airspeed and dive angle. Ballistics tables are furnished for altitudes from 200 to 6000 feet above target elevation and at dive angles from 5 thru 45 degrees. The lower the dive angle the greater the splash effect of the fire bomb upon impact. The optical sight depression used to determine the release point is based on the distance from release to impact, corrected for rangewind. An offset flight path may be required to correct for the location of the bomb in relation to the aircraft centerline. The aircraft must be flown to arrive at a predetermined release altitude, slant range from the target, and release velocity in order to have an accurate bomb impact. A depressed sight line corrected for rangewind is used as a release reference. Correction for crosswind during this delivery requires an offset aimpoint due to aircraft drift at release affecting bomb line of flight.

Ballistics tables for fire bombs, utilizing both low-level and dive deliveries, provide sight depression data that places the point of impact on target. When desirable for the fire bomb to hit short of the target, the distance must be estimated or the sight depression setting recomputed.

WARNING

Do not fly thru fire bomb smoke within 20 seconds of burst as a compressor stall or flameout could occur.

PRACTICE BOMBS

Practice bomb ballistics tables are provided for the BDU-33 and MK-106 series bombs, covering the same delivery parameters listed for actual weapon delivery.

CLUSTER BOMB DELIVERY

Cluster bombs (CBU), consisting of dispensers filled with small bombs, may be released from a dive approach. The SUU-30 series, clamshell type dispensers, are designed to disperse over a wide area. Tables are used to obtain sight depression values for dive angles of 15, 30, and 45 degrees.

LEAFLET BOMB DELIVERY

The M129E2 leaflet bombs are released from level flight at release altitudes of 1000 thru 10,000 feet above burst height. The bombing table states the bomb time of flight and range, from release to burst, for a given release true airspeed and release altitude above burst. The time of flight is used to set the mechanical time delay fuze to obtain the desired burst height. The bomb range is used to determine the release point. Wind effect on the bomb prior to burst is a function of wind velocity and bomb time of flight. The wind effect on the leaflets is impossible to predict.

AIR-TO-GROUND ROCKET ATTACK

As with other attacks against surface targets, rocket attack variables are determined by the initial turn into the target. The flight of the rocket is affected by gravity to a greater degree than gunfire due to the lower velocity of the rocket. The attack is preplanned to place the aircraft at a launch point with specific altitude, airspeed, dive angle, and slant range values for which a sight setting has been selected (figure 1-7). The optical sight and altimeter are used to determine arrival at the release point. The rockets are fired singly, in pairs, or rippled, depending on the launcher used and the intervalometer installed in each launcher. Launch altitude computations must consider terrain clearance, altitude loss during dive recovery, minimum ground clearance, and fragmentation envelope avoidance. Launch tables are furnished for dive angles from 10 thru 60 degrees.

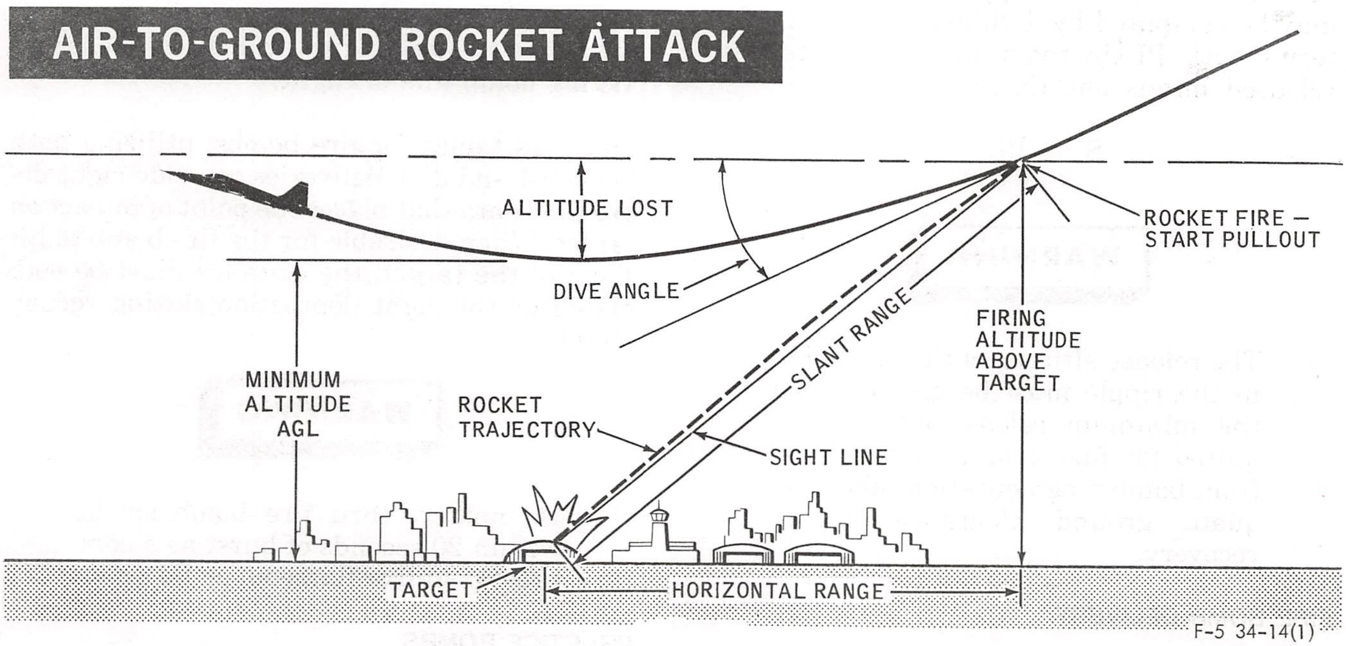


Figure 1-7.

FLARE DELIVERY

MK-24 FLARE

MK-24 parachute flares are used for night illumination of ground targets (figure 1-8). The SUU-25A/A, SUU-25C/A, or SUU-25E/A flare dispenser is used to carry and release the flares. The delivery aircraft approaches the target in level flight at the preplanned release altitude and releases the first flare(s) short of the target. (Flares are released individually from the SUU-25C/A or SUU-25E/A dispenser and released in pairs from the SUU-25A/A dispenser.) Normally, the second flare(s) is released approximately 3 seconds later to illuminate the target run-in line and the target. As each pair of flares is released from the SUU-25A/A dispenser, a connecting lanyard between each flare initiates each flare's fuze train to provide approximately 150-feet separation between flare ignition. The flares should not be released directly on the approach course of the in-trail weapons delivery aircraft.

Horizontal travel distance from point of release varies with airspeed and flare ejection fuze setting. Vertical drop for flare ignition and minimum release altitude above ground level (AGL) depends on the Mod flare and ejection and ignition fuze settings. Flare burnout should occur approximately 1000 feet above ground level. A level release ballistic table for MK-24 flares is provided in section VI.

FLARE DROP PROFILE (TYPICAL)

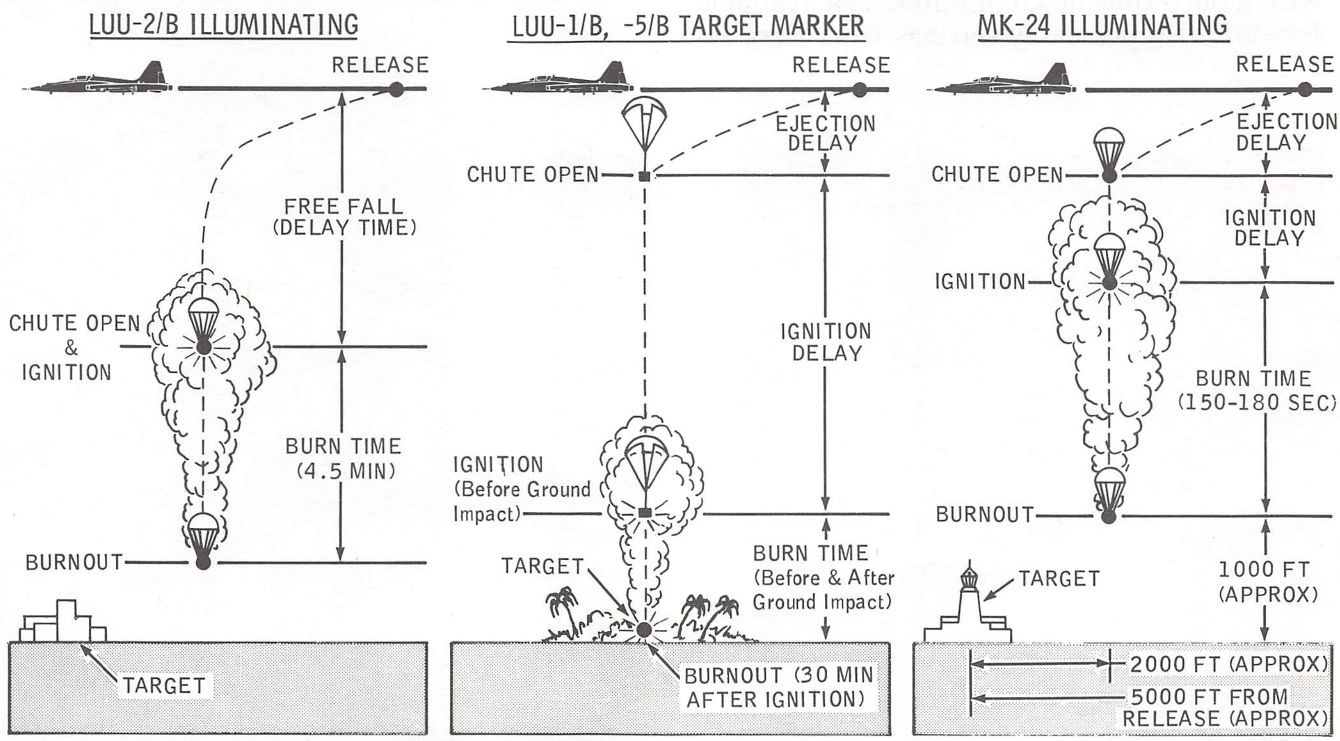


Figure 1-8.

LUU-1/B AND LUU-5/B TARGET MARKER FLARES

The LUU-1/B parachute target marker flare is a longer burning, red colored flare designed to burn for 30 minutes on the ground. The LUU-5/B is identical to the LUU-1/B flare except that the LUU-5/B burns with a green flame. Delivery of these flares is similar to that for the MK-24 flares, using the SUU-25A/A, SUU-25C/A or SUU-25E/A flare dispenser. During mission planning, a release altitude, an ejection fuze setting, and an ignition fuze setting must be selected which assures flare ignition before ground impact. The flare has a rate of descent of approximately 15 feet per second after flare ignition. A level release table and a wind correction factors chart for the LUU-1/B and LUU-5/B flares are provided in section VI.

LUU-2/B FLARE

The LUU-2/B is a free-fall illuminating flare with a burn time of 4.5 minutes. The available free-fall distance delay settings from flare release to parachute deployment, followed by flare ignition are selectable. This selection must be determined during mission planning. Delivery of the flare is similar to that for the MK-24 flare, using the SUU-25A/A, SUU-25C/A or SUU-25E/A flare dispenser.

THREAT RADAR WARNING

The AN/ALR-46(V)-3 radar warning receiver (RWR) system provides visual and audio warning indications of ground based or airborne radar activity, which is detecting or actually tracking the aircraft. The RWR is intended to enable the pilot to implement evasive or attack maneuvers to counteract any immediate threat. Refer to classified supplement T.O. 1F-5E-34-1-1-4 (Confidential) for coverage of the AN/ALR-46(V)-3 radar warning system display, controls, and operation.

WEAPON SYSTEM AND CONTROLS

WEAPON SYSTEM

The weapon system consists of the fire control system, sight camera, radar warning receiver system (if installed), and the weapon release system. The basic weapon capabilities are 20mm gun(s) and AIM-9 missiles. The systems provide air-to-air gun and missile firing, air-to-ground gun firing, and air-to-ground delivery of bombs, rockets and flares. Some aircraft include radar warning receiver systems to provide threat radar detection. See figure 1-10 for the weapons loading capabilities of each station and refer to the flight manual/supplemental flight manual for authorized configurations for takeoff.

RADAR WARNING RECEIVER SYSTEM

Refer to supplement T.O. 1F-5E-34-1-1-4 (Confidential) for coverage of the AN/ALR-46(V)-3 radar warning receiver system.

FIRE CONTROL SYSTEM

The fire control system consists of the fire control radar (FCR) system and the lead computing optical sight system (LCOSS). With the inputs from various aircraft components, the systems provide a display on the radar indicator, launch envelope indications for AIM-9 missile, lead for air-to-air gun firing and roll stabilized aiming for air-to-ground targets on the sight reticle. Figure 1-9 shows the signal flows between the fire control system and aircraft components, and the displays on the sight reticle and radar indicator.

NOTE

Fire control radar system is removed (some aircraft) when the reconnaissance nose is installed.

FIRE CONTROL SYSTEM (TYPICAL)

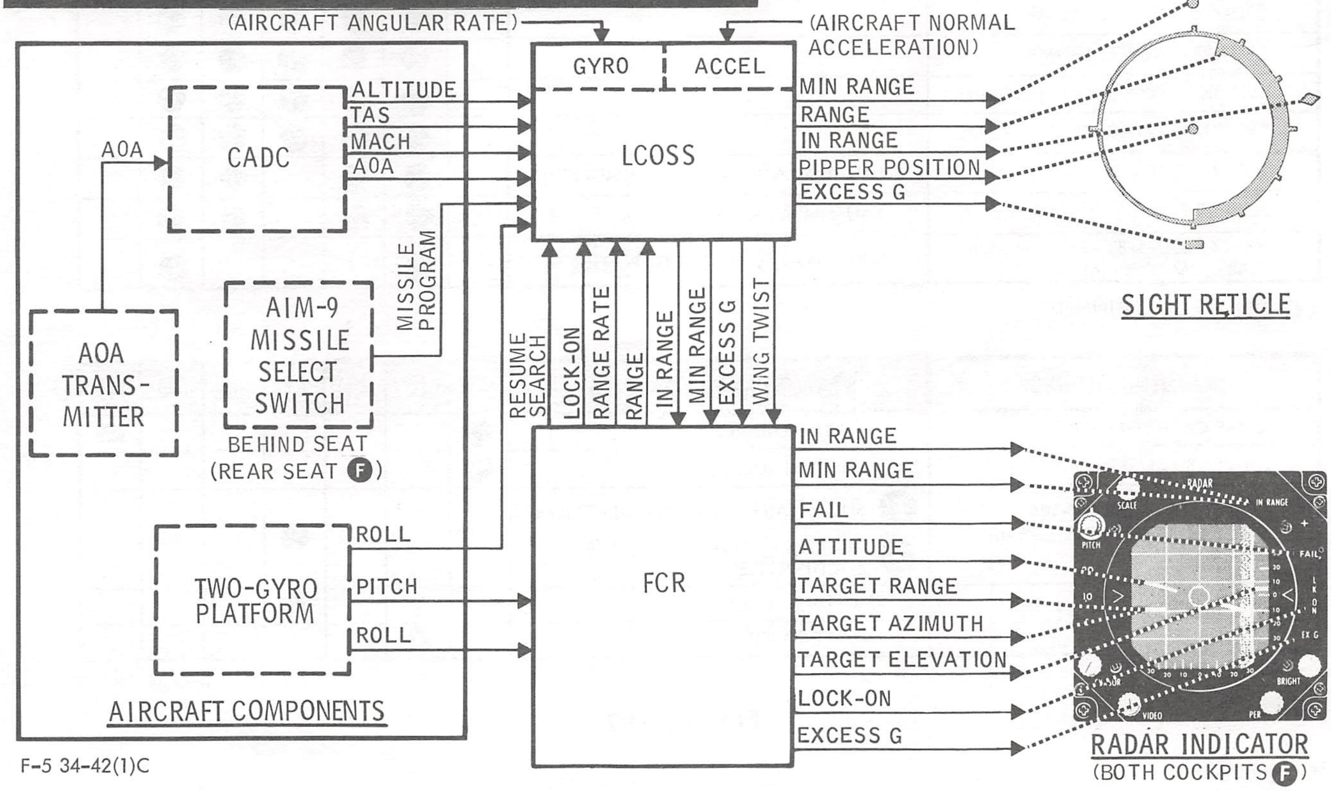
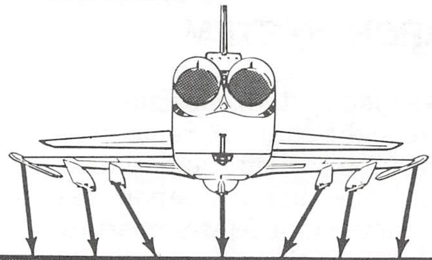


Figure 1-9.

LOADING CAPABILITIES & STATION REQUIREMENTS

Note

- (E) TWO M-39 20MM GUNS WITH 280 ROUNDS PER GUN
- (F) ONE M-39 20MM GUN WITH 140 ROUNDS
- ● REFER TO T.O. 1F-5E-1 FOR AUTHORIZED CONFIGURATIONS FOR TAKEOFF



STORES	STATION REQUIREMENTS	TIP	LO	LI	CL	RI	RO	TIP
AIM-9B/E/J/N/P SERIES MISSILE	WINGTIP LAUNCHER	●						●
MK-82 GP BOMB			●	●	●	●	●	
MK-82 SNAKEYE 1 BOMB			●	●	●	●	●	
MK-36 DESTRUCTOR			●	●	●	●	●	
MK-83 GP BOMB				●	●	●		
MK-84 GP BOMB					●			
M117 GP BOMB			●	●	●	●	●	
GBU-10F/B LASER-GUIDED BOMB					●			
GBU-12E/B LASER-GUIDED BOMB			●	●	●	●	●	
M129E2 LEAFLET BOMB			●	●	●	●	●	
(1) BLU-1/B, B/B, C/B FIRE BOMB			●	(E)	●	(E)	●	
(1) BLU-27/B, A/B, B/B, C/B FIRE BOMB			●	(E)	●	(E)	●	
(1) BLU-32A/B, B/B, C/B FIRE BOMB			●	●	●	●	●	
CBU-24B/B CLUSTER BOMB			●	●	●	●	●	
CBU-49B/B CLUSTER BOMB			●	●	●	●	●	
CBU-52B/B CLUSTER BOMB			●	●	●	●	●	
CBU-58/B, -58A/B CLUSTER BOMB			●	●	●	●	●	
CBU-71/B, -71A/B CLUSTER BOMB			●	●	●	●	●	
2.75-IN FFAR (19)	LAU-3/A, A/A, B/A,-60/A LAUNCHER		●	●		●	●	
2.75-IN FFAR (7)	LAU-68A/A, B/A LAUNCHER		●	●		●	●	
MK-24, LUU-1/B, -2/B, OR -5/B FLARES/MARKERS (8)	SUU-25A/A, C/A, E/A DISPENSER		●				●	

(1) FINNED OR UNFINNED

TRAINING STORES	STATION REQUIREMENTS	TIP	LO	LI	CL	RI	RO	TIP
AIM-9 CAPTIVE MISSILE	WINGTIP LAUNCHER	●						●
TDU-11/B TARGET ROCKET	WINGTIP LAUNCHER	●						
BDU-33 SERIES OR MK-106 PRACTICE BOMBS (6) & 2.75-IN FFAR (4)	(E) SUU-20/A(M), A/A, B/A DISPENSER (F) ADAPTER & SUU-20/A(M), A/A, B/A DISPENSER				●			
TDU-10/B DART TARGET	RMU-10/A TOW REEL				●			
	TARGET CARRIER		●					

F-5 34-25(1)G

Figure 1-10.

FIRE CONTROL RADAR Ⓐ

RADAR SET AN/APQ-153 Ⓔ

The AN/APQ-153 radar set is a multimode, forward-looking, X-band pulse, radar providing air-to-air search, range, and track information for use in air-to-air gunnery and AIM-9 missile launch. The set consists of a roll-stabilized antenna, transmitter-receiver and a processor in the nose section, and a control panel, and radar indicator in the cockpit (figure 1-11). The set interfaces with the LCOSS to provide missile, gun, and dogfight gun modes of operation with the capability of automatic acquisition and lock-on to a selected target. After target acquisition and lock-on in missile, guns and dogfight gun (DG) modes, the set tracks the target to provide range and range rate signals to the LCOSS for head-up guns and missile attacks. In test mode, built-in-test (BIT) is initiated, providing radar set performance verification. All modes, except dogfight and test, are selected on the optical sight by the sight mode selector. Dogfight mode is selected by momentarily pressing the dogfight button on the control stick grip. Dogfight gun is a priority mode that provides immediate transfer from any operating mode to a head-up attack capability with visual target contact. The following modes of operation are provided.

a. Missile mode, on-boresight acquisition and track.

b. Gun modes A/A1 and A/A2, on-boresight acquisition and track for maneuvering or unaccelerated constant rate maneuvering targets.

c. Dogfight gun mode, on-boresight acquisition and track.

RADAR SET AN/APQ-157 Ⓕ

The AN/APQ-157 radar set has the same components and functions as AN/APQ-153 except that the Ⓕ has control panel and radar indicator in each cockpit. The radar can be controlled from either cockpit thru the transfer and override controls. An advisory fire control radar (FCR) light in each cockpit, when on, indicates the cockpit that has radar control. Mode lights in the rear cockpit illuminate when missile, guns, or manual mode is selected in the front cockpit or when dogfight mode is selected by either cockpit. See figure 1-11 for location and function of radar controls and advisory lights.

Radar Transfer and Override Controls

The transfer and override controls consist of a control transfer switch in the front cockpit for transferring control of radar to either cockpit. An override switch in the rear cockpit overrides control of radar regardless of front cockpit selection. The cockpit that has control of the set controls the radar control panel, which includes: the radar mode selector, resume search, range selector, acquisition (ACQ) button, and antenna tilt control. On the radar indicator, the pitch and video controls are transferable. Brightness, persistence, cursor, and scale controls are individually controlled in each cockpit. Dogfight mode is selected by momentarily pressing the dogfight button on the control stick grip in either cockpit with no control transfer. After transferring control to either cockpit, the elevation cursor of the cockpit gaining control should be adjusted, if necessary, to indicate the same previous setting of other cockpit. If settings are different, the antenna repositions to the setting in the cockpit gaining control.

Video Trim (Rear Cockpit)

Video trim consists of adjusting (balancing) the rear cockpit video display to match the front cockpit display when the front cockpit has control of the radar. Video trim is in addition to using the video knob on the rear cockpit radar indicator and affects the rear video display only. Balancing the video is necessary to reduce video adjustment after control of radar is transferred. No further in-flight adjustment of video trim should be required.

RADAR CONTROLS & INDICATOR LIGHTS (TYPICAL)

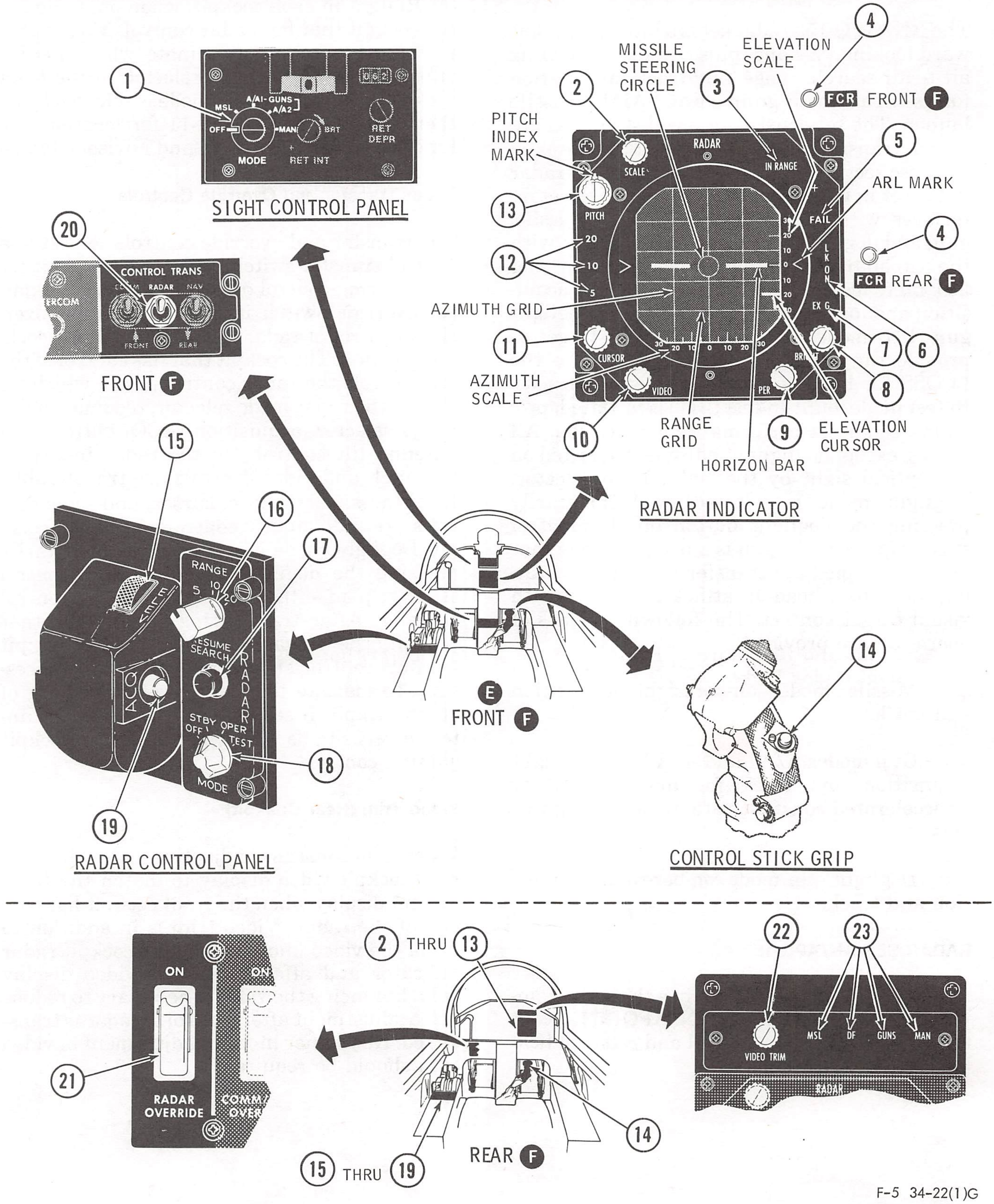


Figure 1-11.

RADAR CONTROLS AND INDICATOR LIGHTS (Figure 1-11) ⚠

CONTROLS AND INDICATOR LIGHTS	FUNCTION	
1 Sight Mode Selector	OFF	— Disconnects electrical power to LCOSS.
	MSL	— Selects missile mode for the fire control system.
	A/A1 or A/A2 GUNS	— Selects gun mode for the fire control system.
	MAN	— Selects manual mode for LCOSS.
RADAR INDICATOR (2 thru 13)		
2 Scale Knob	Rotate	— Adjusts the brightness of azimuth and range grid lines, azimuth and elevation scales, and missile steering circle from off to full bright.
3 In Range Light (White)	IN RANGE On-Steady	— Target in range for AIM-9 missile launch or air-to-air gun attack (within 2700 feet in gun or DG mode).
	IN RANGE On-Flashing	— Target is less than minimum range for AIM-9 missile launch or air-to-air gun attack (less than 1000 feet in gun or DG mode).
4 (F) Fire Control Radar Light (Yellow)	FCR On	— In cockpit that has control of radar.
5 Fail Light (Yellow)	FAIL On	— Indicates one of the following conditions: a. Radar Mode Selector at OFF — Low pressurization in waveguide unit. b. Radar Mode Selector at STBY — Low voltage power supply out of tolerance. c. Radar Mode Selector at OPER — Either transmitter power, low voltage power supply, or lock-on of automatic frequency control out of tolerance. d. Radar Mode Selector at TEST — Radar range information is not accurate.
6 Lock On Light (White)	LK ON On	— Radar locked on and range-tracking target.

RADAR CONTROLS AND INDICATOR LIGHTS (Figure 1-11) (Continued) ⚠

CONTROLS AND INDICATOR LIGHTS	FUNCTION	
7 Excess G Light (Yellow)	EX G On	— Indicates excess-g condition for successful missile guidance. Inoperative in gun and dogfight gun modes.
8 Bright Knob	Rotate	— Adjusts the background brightness of radarscope from off to full bright.
9 Persistence (PER) Knob	Rotate	— Adjusts the time video remains on radarscope.
10 Video Knob	Rotate	— Adjusts the video intensity and effects lock-on sensitivity in missile mode. Inoperative in gun and dogfight gun modes.
11 Cursor Knob	Rotate	— Adjusts the brightness of horizon bar and elevation cursor on radarscope from off to full bright.
12 Range Scale Lights (White)	5, 10 or 20 On	— Radar display range in NM.
13 Pitch Knob	Rotate	— Adjusts the horizon bar up 20 degrees or down 20 degrees. With the horizon bar set at 0 degrees in level flight, the horizon bar indicates the pitch angle of the aircraft.
14 Dogfight Button	Press (Momentary)	— Selects dogfight gun mode. If radar is not locked on, compresses and stows B-sweep at 20 degrees left, aligns antenna to 0 degrees azimuth and 2 degrees below ARL. Range gate slews from 500 feet to 5600 feet to lock on the first target encountered. **NOTE** • Selecting dogfight gun mode when the radar is locked on in missile or gun mode will not break lock-on if target signal is sufficient. • When the radar is locked on in dogfight gun mode, momentarily repressing the dogfight button breaks target lock-on. The range gate slews out from rejected target to lock on to the first target that is at least 450 feet or greater in range. Holding the button pressed causes the range gate to slew continuously until the button is released.

RADAR CONTROLS AND INDICATOR LIGHTS (Figure 1-11) (Continued) ⚠

CONTROLS AND INDICATOR LIGHTS	FUNCTION	
RADAR CONTROL PANEL (15 thru 19)		
15 Elevation (ELEV) Antenna Tilt Control	Rotate	— Adjusts the antenna tilt angle up or down 45 degrees of ARL. Elevation cursor on radarscope indicates antenna elevation tilt angle.
16 Range Selector	5/10/20	— Selects radar display range in NM.
17 Resume Search Button	Press (Momentary)	— Initiates search phase. Breaks lock if radar was locked on and rejects dogfight gun mode, if selected.
18 Radar Mode Selector	OFF	— Disconnects electrical power to FCR. **NOTE** The selector must be pushed in to rotate from the STBY position to OFF.
	STBY	— Connects electrical power to warm up radar transmitter (3 to 5 minutes), energizes gyro, and aligns antenna with ARL. Within 60 seconds, the following appear on radar indicator: Horizon bar Antenna elevation cursor Range scale light Range and azimuth grids
	OPER	— Electrical power is supplied to all circuitry for radar search and track operation. If switching to OPER before warmup time (3 to 5 minutes) is completed, no search and track operation is available.
	TEST	— Activates radar built-in-test (BIT) circuits. Failure of any function causes FAIL light on radar indicator to come on. **NOTE** The selector must be pushed in to rotate from the OPER position to TEST.

RADAR CONTROLS AND INDICATOR LIGHTS (Figure 1-11) (Continued) ⚠

CONTROLS AND INDICATOR LIGHTS	FUNCTION	
19 Acquisition (ACQ) Button	Press (Momentary)	— a. In Missile Mode — Compresses and stows B-sweep at 20 degrees left, aligns antenna with armament reference line (ARL), and range gate slews from 500 feet to 60,000 feet on 10-mile range and 500 feet to 30,000 feet on 5-mile range, to lock on target. — b. In Gun Modes — Compresses and stows B-sweep at 20 degrees left, aligns antenna 2 degrees below ARL, and range gate slews from 500 feet to 5600 feet to lock on target. **NOTE** Momentarily pressing the ACQ button when the radar is locked on in missile, gun or dogfight gun mode breaks target lock-on. Range gate resumes slewing from rejected target to lock on to the first target that is at least 450 feet or greater in range. Holding the button pressed slews the range gate continuously until the button is released.
20 Ⓕ (Front) Radar Control Transfer Switch	FRONT (Up)	— Transfers radar control to front cockpit and mode selected.
	REAR (Down)	— Transfers radar control to rear cockpit and mode selected.
21 Ⓕ (Rear) Radar Override Switch	Off (Guard Closed)	— Permits radar control transfer switch in front cockpit to transfer radar control to either cockpit.
	ON	— Transfers control of radar to rear cockpit regardless of radar control transfer switch position.
22 Ⓕ (Rear) Video Trim Knob	Rotate	— With front cockpit in control, adjusts radar video display to match front cockpit video display. After videos are matched, no further in-flight adjustment of video trim should be required.

RADAR CONTROLS AND INDICATOR LIGHTS (Figure 1-11) (Continued) ⚠

CONTROLS AND INDICATOR LIGHTS	FUNCTION	
23 Ⓕ (Rear) Mode Indicator Lights (White)	MSL On	— Missile mode selected in front cockpit.
	DF On	— Dogfight gun mode selected in either cockpit.
	GUNS On	— A/A1 or A/A2 gun mode selected in front cockpit.
	MAN On	— Manual mode selected in front cockpit.

RADAR OPERATION ⚠

SEARCH PHASE

Target search is initiated by placing the radar mode selector to OPER after being in STBY for 3 to 5 minutes or by waiting 3 to 5 minutes in OPER. If the ACQ button has been activated, the resume search button must be pressed momentarily to enable the radar to search. The radar searches to a range of 20 nautical miles ahead of the aircraft in a section 90 degrees in azimuth and 5 degrees above and below the antenna centerline. The antenna tilt may be controlled 45 degrees above and below the ARL. The antenna is pitch and roll stabilized so that azimuth scan is a plane parallel to the earth surface regardless of aircraft roll attitude, preventing loss of the target and/or smearing of the display. A 360-degree compensation is provided about the aircraft roll axis and with the antenna set at either extreme limit of 45 degrees in elevation, 90 degrees of pitch compensation is provided in the opposite direction. Roll attitude of 360 degrees and pitch attitude of 50 degrees, less pitch knob trim, is displayed by the horizon bar. The antenna elevation position is independent of aircraft pitch attitude, and the angle between the antenna and the ARL is indicated by the elevation cursor. A search range of 5, 10, or 20 miles may be selected depending on target range. The radarscope displays a horizon bar (in all modes) and the return signals illuminated by a vertical B-sweep moving across the radarscope. Targets appear as short lines or blips (figure 1-12). Target range is read off the horizontal range lines on the face of the radarscope, from minimum range at bottom to maximum range at the top. For the selected range, the lines from bottom to top represent the following:

20-mile range — 4, 8, 12, 16, and 20 miles
10-mile range — 2, 4, 6, 8, and 10 miles
5-mile range — 1, 2, 3, 4, and 5 miles

Azimuth of target in degrees is read off the azimuth scale on the bottom of the scope. Elevation of the target relative to ARL is determined by the position of the elevation cursor read in degrees off the elevation scale on the right side of the scope.

In order for the radar to detect and display a target blip on the scope, the antenna elevation must be adjusted so that the 10 degrees of beam coverage sweeps the target. After the target is acquired and range, azimuth, and elevation are established, the aircraft is maneuvered to bring the target blip to 0 degrees in azimuth and 0 degrees in elevation for acquisition. This is accomplished by adjusting the antenna elevation to keep the blip on the radarscope while maneuvering until the elevation cursor is at 0 degrees.

RADAR RETURNS (TYPICAL)

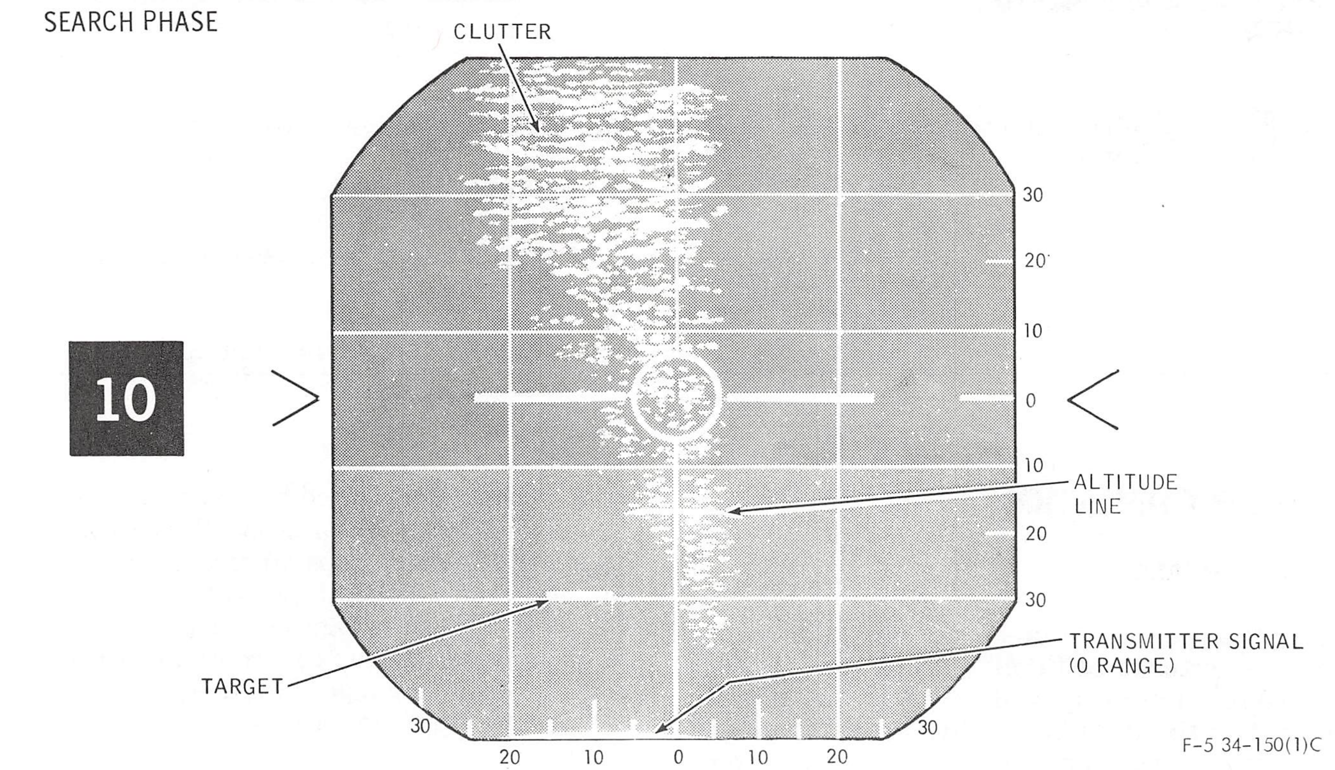


Figure 1-12.

VIDEO ADJUSTMENT

The B-sweep moving right and left displays radar return. The processor prevents an excessive amount of ground clutter by a clipping action which allows only stronger targets to appear from minimum range to approximately 6 miles. The clipping action is evident on the radarscope by an absence of receiver noise and a low clutter level from minimum range to 4 or 5 miles. Despite this clipping, a transmitter signal line zero range and a small portion of an altitude line in the clutter region are usually present on the radarscope (figure 1-12). The altitude line is a return effect due to antenna side lobes and the nature of the terrain. Target visibility on the radarscope is controlled by the combination of brightness, persistence and video settings selected. Ambient light in the cockpit, target return strength, and interference and clutter conditions govern the control settings to be used. The video knob is turned clockwise to show a low level of receiver noise (beyond 5 miles) which gives a light speckled effect to the radarscope. If heavier, more opaque areas of whiteness appear on the radarscope at this setting, turn the video knob counterclockwise until the intensity of the clutter is reduced sufficiently in the area of interest on the radarscope to see targets within the clutter.

MISSILE ATTACK

When the radar is operating in search, and target is detected, the missile mode is initiated by selecting MSL on the sight mode selector and activating the ACQ button. Momentarily pressing the ACQ button starts the acquisition phase: automatically selects 10-mile range, compresses and stows the B-sweep at 20 degrees left and aligns the antenna to ARL. The range gate appears, slewing out from 500 feet

to 10 miles. If the target was placed approximately on 0 degrees azimuth and elevation and within 10-mile range before pressing ACQ button, it will be repositioned on the compressed B-sweep at the appropriate range. When the range gate reaches the target, lock-on is automatic. At target lock-on, the radar starts the tracking phase: the antenna conically scans about the target to provide steering information, the LK ON light comes on, the range gate stows on target and the elevation cursor becomes steering bar which indicates target position. While tracking, the radar range tracks to the limit of 10 miles, the IN RANGE light comes on steady when the launch aircraft is within the computed launch envelope and flashes when the computed minimum range is reached. For a successful AIM-9 missile launch, the aircraft should be maneuvered to position the steering bar within steering circle while monitoring missile tone in the headset. A head-down missile attack uses the radar display and indicator lights to close within missile launch envelope while the head-up attack uses the sight reticle with markers.

During track, if the target amplitude falls below minimum lock-on threshold, the radar goes into memory for approximately 1.75 seconds. During memory, the range tracker follows the last known rate. If the target reappears during this 1.75 seconds, the radar reverts back to tracking phase. If the target does not reappear or its amplitude does not reach lock-on threshold, the radar returns to acquisition phase. Momentarily pressing the ACQ button breaks target lock-on, the range gate resumes slewing from rejected target to lock on to the first target that is at least 450 feet or greater in range. Holding the button pressed slews the range gate continuously. Return to search phase is accomplished by momentarily pressing the resume search button. See figure 1-13 for missile attack sequence.

GUN/DOGFIGHT GUN ATTACK

The radar is placed in air-to-air gun mode by selecting A/A1 or A/A2 on the sight mode selector and activating the ACQ button. The dogfight gun mode, which overrides any selected mode, is initiated by pressing the dogfight button on the control stick grip. Momentarily pressing the ACQ/dogfight button starts the acquisition phase: automatically selects 5-mile range, compresses and stows the B-sweep at 20 degrees left and aligns the antenna to 0 degrees azimuth and down 2 degrees below ARL. The range gate appears, slewing out from 500 feet to 5600 feet. If the target was placed approximately on 0 degrees azimuth and slightly below ARL and within 5-mile range before pressing ACQ/dogfight button, it will be repositioned on the compressed B-sweep at the appropriate range. Lock-on is automatic when the range gate reaches the target at 5600 feet or less in range. At target lock-on, the radar range tracks the target, the LK ON light comes on and the range gate stows on the target. If the target moves out beyond the 5600 feet acquisition range, the radar continues to track to 10-mile range and the attack may be continued. When the target is beyond the 5600 feet range, rejection of the target prevents lock-on of that target until the range closes to 5600 feet or less. The IN RANGE light comes on steady when the target is at 2700 feet until the target is at 1000 feet, then the light starts flashing. For a successful gun/dogfight gun attack, the head-up attack must be applied, using the sight reticle with markers and crosschecking the radar display and indicator lights.

During track, if the target amplitude falls below minimum lock-on threshold, the radar goes into memory for approximately 1.75 seconds. During memory, the range tracker follows the last known rate. If the target reappears during this 1.75 seconds, the radar reverts back to tracking phase. If the target does not reappear or its amplitude does not reach lock-on threshold, the radar returns to acquisition phase. Momentarily pressing the ACQ button in gun mode or momentarily pressing the dogfight button in dogfight gun mode breaks target lock-on, the range gate resumes slewing from rejected target to lock on to the first target that is at least 450 feet or greater in range. Holding either button pressed slews the range gate continuously. Selecting dogfight gun mode when the radar is tracking in missile or gun mode will not cause loss of lock-on if target signal is sufficient. Return to search phase is accomplished by momentarily pressing the resume search button. See figure 1-14 for gun/dogfight gun attack sequence.

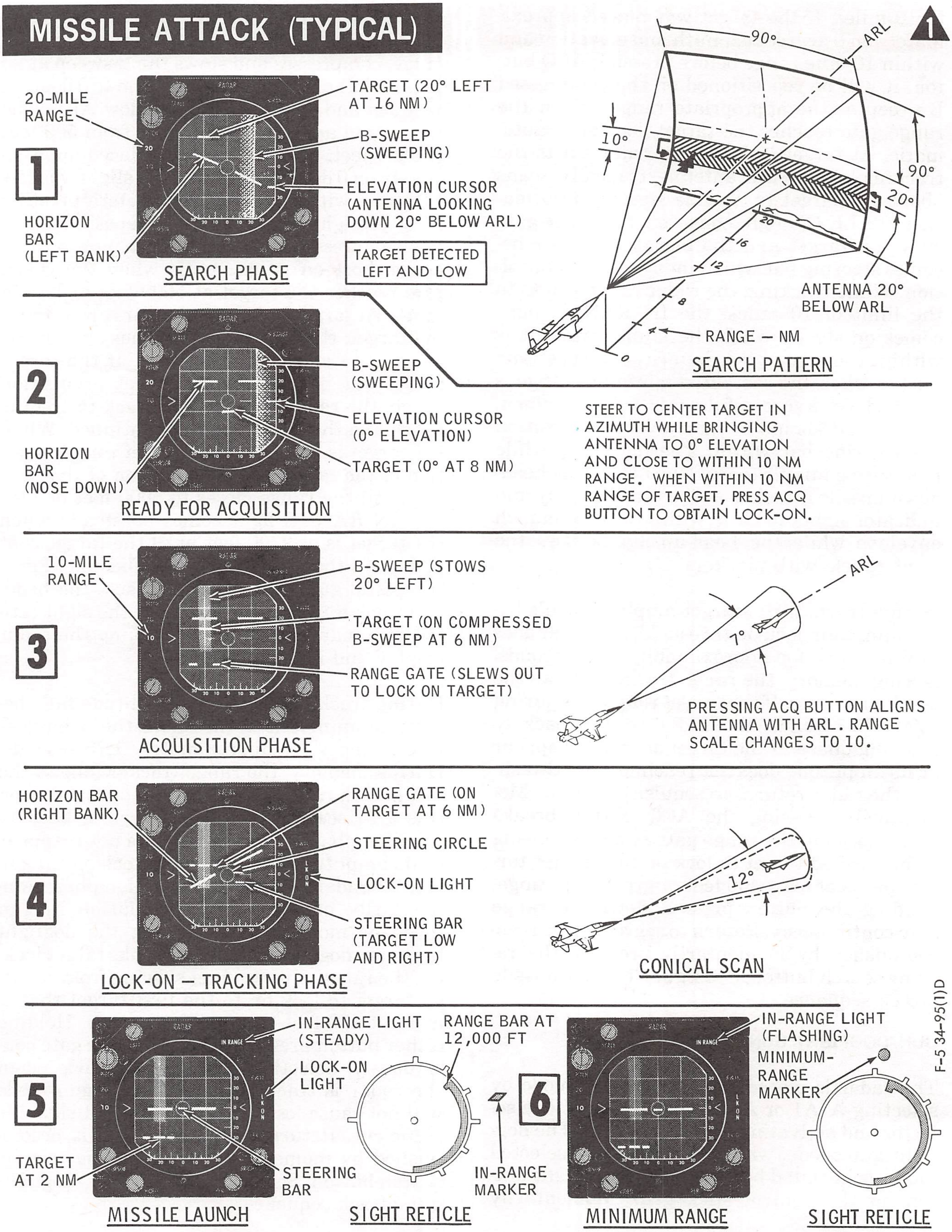

MISSILE ATTACK (TYPICAL)
1
20-MILE RANGE
TARGET (20° LEFT AT 16 NM)
B-SWEEP (SWEEPING)
ELEVATION CURSOR (ANTENNA LOOKING DOWN 20° BELOW ARL)
HORIZON BAR (LEFT BANK)
TARGET DETECTED LEFT AND LOW
SEARCH PHASE
90°
ARL
10°
90°
20°
20
16
12
8
4
0
ANTENNA 20° BELOW ARL
RANGE — NM
SEARCH PATTERN
2
B-SWEEP (SWEEPING)
ELEVATION CURSOR (0° ELEVATION)
HORIZON BAR (NOSE DOWN)
TARGET (0° AT 8 NM)
READY FOR ACQUISITION
STEER TO CENTER TARGET IN AZIMUTH WHILE BRINGING ANTENNA TO 0° ELEVATION AND CLOSE TO WITHIN 10 NM RANGE. WHEN WITHIN 10 NM RANGE OF TARGET, PRESS ACQ BUTTON TO OBTAIN LOCK-ON.
3
10-MILE RANGE
B-SWEEP (STOWS 20° LEFT)
TARGET (ON COMPRESSED B-SWEEP AT 6 NM)
RANGE GATE (SLEWS OUT TO LOCK ON TARGET)
ACQUISITION PHASE
ARL
7°
PRESSING ACQ BUTTON ALIGNS ANTENNA WITH ARL. RANGE SCALE CHANGES TO 10.
4
HORIZON BAR (RIGHT BANK)
RANGE GATE (ON TARGET AT 6 NM)
STEERING CIRCLE
LOCK-ON LIGHT
STEERING BAR (TARGET LOW AND RIGHT)
LOCK-ON — TRACKING PHASE
12°
CONICAL SCAN
5
IN-RANGE LIGHT (STEADY)
LOCK-ON LIGHT
TARGET AT 2 NM
STEERING BAR
MISSILE LAUNCH
RANGE BAR AT 12,000 FT
IN-RANGE MARKER
SIGHT RETICLE
6
IN-RANGE LIGHT (FLASHING)
MINIMUM-RANGE MARKER
MINIMUM RANGE
SIGHT RETICLE
F-5 34-95(1)D

Figure 1-13.

GUN/DOGFIGHT GUN ATTACK (TYPICAL)

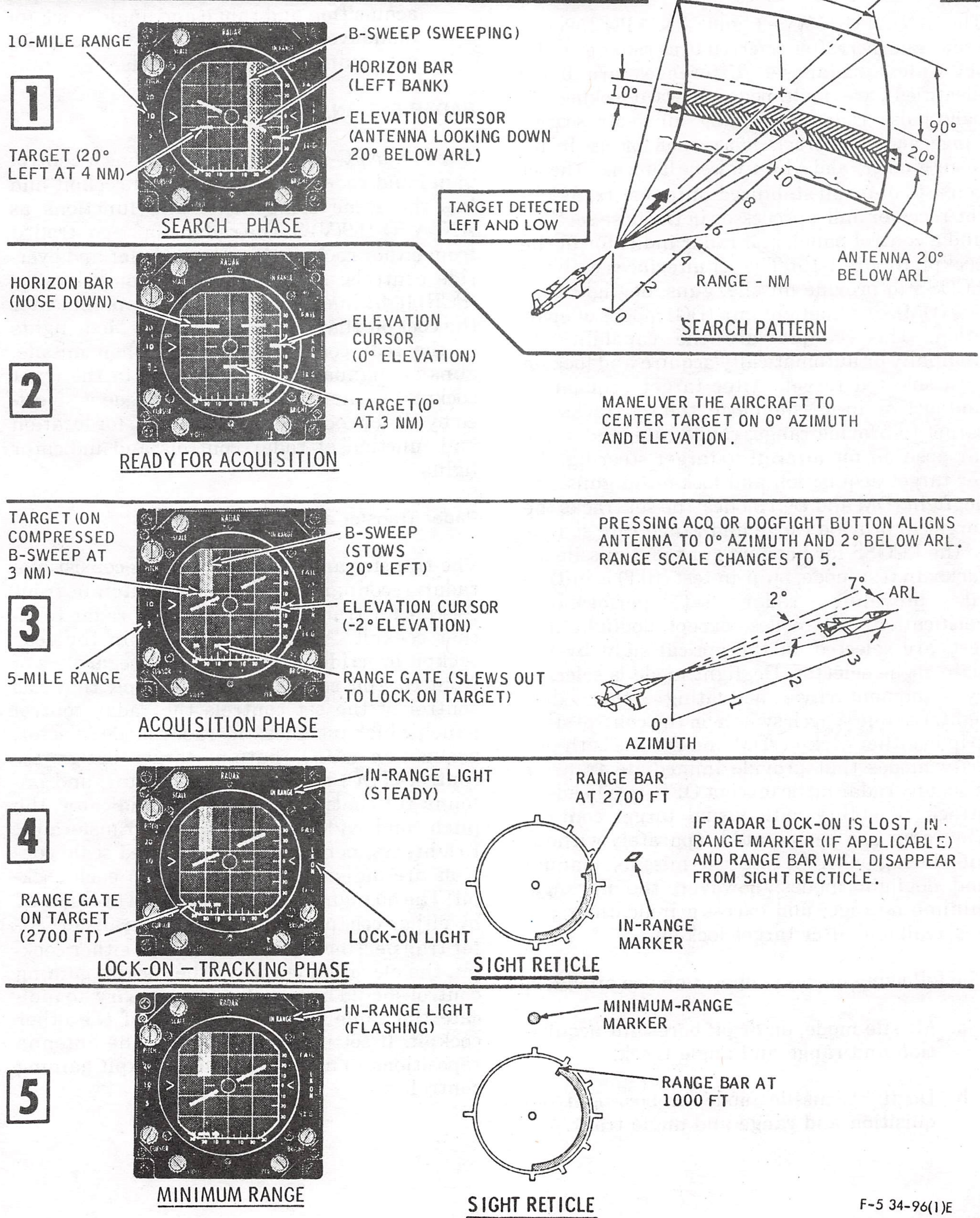


Figure 1-14.

FIRE CONTROL RADAR A A

RADAR SET AN/APQ-159(V)-3 A E AND RADAR SET AN/APQ-159(V)-5 A E

The AN/APQ-159(V)-3 and AN/APQ-159(V)-5 radar sets (hereafter referred to as radar or radar set unless radar set differences are being identified) are multimode, forward-looking, X-band pulse radars providing air-to-air search, range, and angle track information for use in air-to-air gunnery and AIM-9 missile launch. The set consists of a roll-stabilized antenna, transmitter-receiver and a processor in the nose section, and a control panel, and radar indicator in the cockpit (figure 1-15). The set interfaces with the LCOSS to provide missile, guns, dogfight missile (DM), and dogfight gun (DG) modes of operation. The set provides the capability to manually or automatically acquire and lock on to a selected target. After target acquisition and lock-on in missile mode, the set tracks the target to provide range, range rate, and angular position for aircraft-to-target steering. After target acquisition and lock-on in guns and dogfight (DM and DG) modes, the set tracks the target to provide range and range rate signals to the LCOSS for head-up guns and missile attacks. In test mode, built-in-test (BIT) is initiated, providing radar set performance verification. All modes, except dogfight and test, are selected on the optical sight by the sight mode selector. Dogfight mode is selected by momentarily activating the dogfight/resume search switch on the control stick grip in either cockpit. DM and DG are both priority modes that provide immediate transfer from any radar mode (except OFF) to a head-up attack capability with visual target contact. The radar can be operated separately without interfacing with LCOSS, in missile, manual and dogfight modes; however, the in-range, minimum-range, and excess-g indications are not available after target lock-on.

The following modes of operation are provided:

a. Missile mode, on or off-boresight acquisition and range and angle track.

b. Dogfight missile mode, on-boresight acquisition and range and angle track.

c. Dogfight gun mode, on-boresight acquisition and range and angle track.

d. Gun modes A/A1 and A/A2, on-boresight acquisition and range and angle track for maneuvering or unaccelerated constant rate maneuvering air targets.

RADAR SET AN/APQ-159(V)-4 F

The AN/APQ-159(V)-4 radar set has a control panel and radar indicator in each cockpit and has the same components and functions as AN/APQ-159(V)-3. The radar can be controlled from either cockpit thru the transfer and override controls. An advisory fire control radar (FCR) light in each cockpit, when on, indicates the cockpit that has radar control. Mode lights in the rear cockpit illuminate when missile, guns or manual mode is selected in the front cockpit or when either dogfight mode is selected by either cockpit. See figure 1-15 for location and function of radar controls and indicator lights.

Radar Transfer and Override Controls

The transfer and override controls consist of a radar/reconnaissance transfer switch in front cockpit for transferring control of radar to either cockpit. An override switch in the rear cockpit overrides control of radar regardless of front cockpit selections. The cockpit that has control of the set controls the radar control panel, which includes: the radar mode selector, acquisition (ACQ) button, target designator control (TDC) button, range selector, and antenna tilt control. On the radar indicator, the pitch and video controls are transferable. Brightness, persistence, cursor, and scale controls are individually controlled in each cockpit. The dogfight modes are selected or released by either cockpit with no control transfer. After transferring control of radar to either cockpit, the elevation cursor of the cockpit gaining control should be adjusted, if necessary, to indicate the same previous settings of the other cockpit. If settings are different, the antenna repositions to a setting in the cockpit gaining control.

RADAR CONTROLS & INDICATOR LIGHTS (TYPICAL) 2

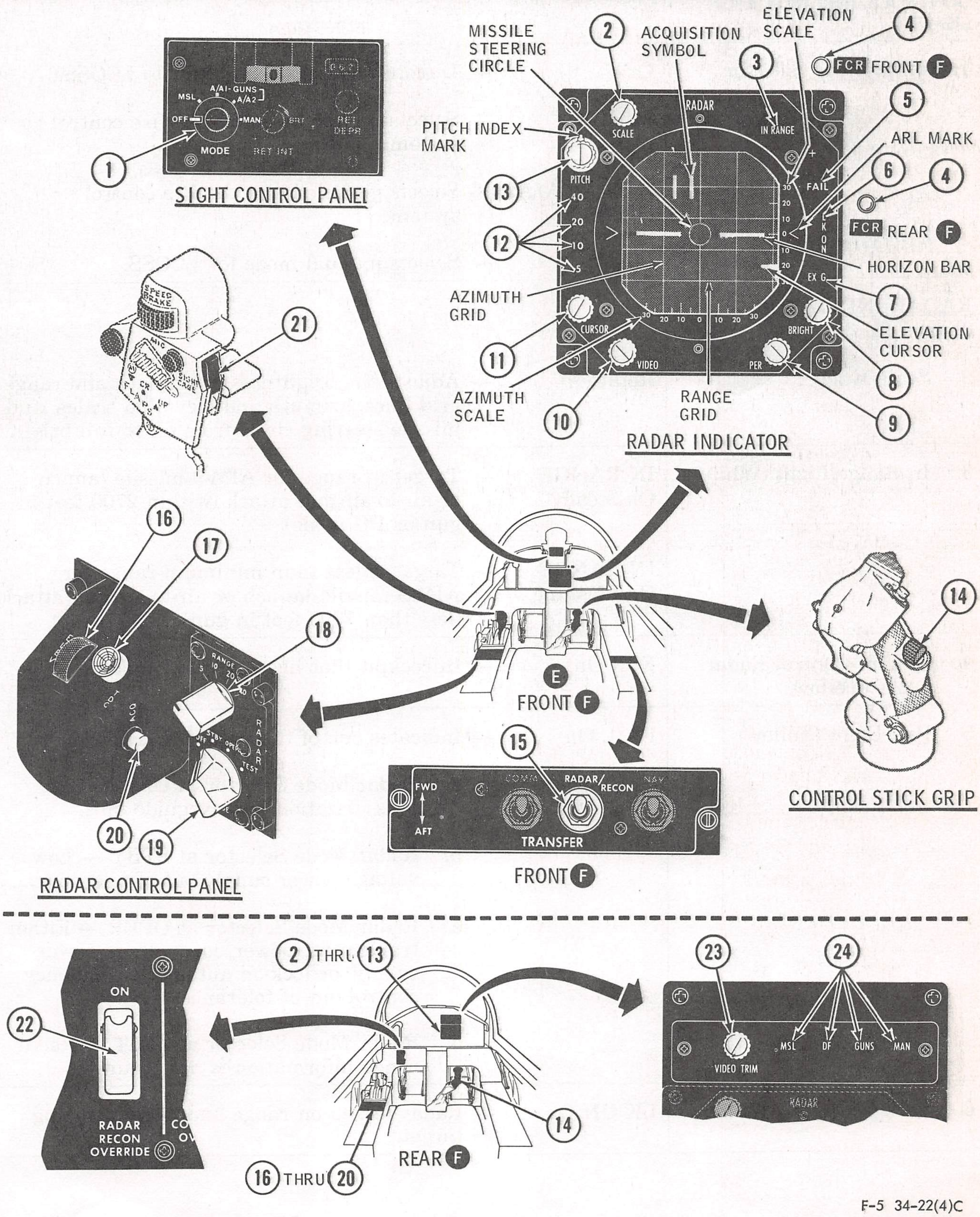


Figure 1-15.

RADAR CONTROLS AND INDICATOR LIGHTS (Figure 1-15) △

CONTROLS AND INDICATOR LIGHTS	FUNCTION	
1 Sight Mode Selector	OFF	— Disconnects electrical power to LCOSS.
	MSL	— Selects missile mode for the fire control system.
	A/A1 or A/A2 GUNS	— Selects gun mode for the fire control system.
	MAN	— Selects manual mode for LCOSS.
<u>RADAR INDICATOR</u> (2 thru 13)		
2 Scale Knob	Rotate	— Adjusts the brightness of azimuth and range grid lines, azimuth and elevation scales, and missile steering circle from off to full bright.
3 In Range Light (White)	IN RANGE On-Steady	— Target in range for AIM-9 missile launch or air-to-air gun attack (within 2700 feet in gun or DG mode).
	IN RANGE On-Flashing	— Target is less than minimum range for AIM-9 missile launch or air-to-air gun attack (less than 1000 feet in gun or DG mode).
4 (F) Fire Control Radar Light (Yellow)	FCR On	— In cockpit that has control of radar.
5 Fail Light (Yellow)	FAIL On	— Indicates one of the following conditions: a. Radar Mode Selector at OFF — Low pressurization in waveguide unit. b. Radar Mode Selector at STBY — Low voltage power supply out of tolerance. c. Radar Mode Selector at OPER — Either transmitter power, low voltage power supply, or lock-on automatic frequency control out of tolerance. d. Radar Mode Selector at TEST — Radar range information is not accurate.
6 Lock On Light (White)	LK ON On	— Radar locked on range and angle tracking target.

RADAR CONTROLS AND INDICATOR LIGHTS (Figure 1-15) (Continued) ⚠

CONTROLS AND INDICATOR LIGHTS		FUNCTION
7 Excess G Light (Yellow)	EX G On	— Indicates excess-g condition for successful missile guidance. Inoperative in gun and dogfight gun modes.
8 Bright Knob	Rotate	— Adjusts the background brightness of radarscope from off to full bright.
9 Persistence (PER) Knob	Rotate	— Adjusts the time video remains on radarscope.
10 Video Knob	Rotate	— Adjusts the video intensity and effects lock-on sensitivity in missile mode. Inoperative in DM, DG, and gun modes.
11 Cursor Knob	Rotate	— Adjusts the brightness of horizon bar, elevation cursor, acquisition symbol and aim symbol on radarscope from off to full bright.
12 Range Scale Lights (White)	5, 10, 20 or 40 On	— Radar display range in NM.
13 Pitch Knob	Rotate	— Adjusts the horizon bar up 20 degrees or down 20 degrees. With the horizon bar set at 0 degrees in level flight, the horizon bar indicates the pitch angle of the aircraft.
14 Dogfight/Resume Search Switch (Spring-loaded to center)	Center-Press (Momentary)	— In missile mode — initiates search phase. Breaks lock if radar was locked on and acquisition symbol reappears automatically at last known range and azimuth position of target. — In either dogfight mode — rejects selected dogfight mode, initiates search phase. — In gun modes — initiates search phase. Breaks lock if radar was locked on.
	Aft (Momentary)	— Selects DG mode. If the radar is not locked on, antenna aligns to 0 degrees azimuth and 4.7 degrees below ARL. Range gate slews from 500 to 5600 feet to lock on the first target encountered.

RADAR CONTROLS AND INDICATOR LIGHTS (Figure 1-15) (Continued) A

CONTROLS AND INDICATOR LIGHTS	FUNCTION	
14 Dogfight/Resume Search Switch (Spring-loaded to center) (Continued)	Forward (Momentary)	— Selects DM mode. If radar is not locked on, antenna aligns to 0 degrees azimuth and on ARL. Range gate slews from 500 to 30,000 feet to lock on the first target encountered. **NOTE** • Selecting DM or DG when the radar is locked on in missile, gun mode or switching between either dogfight mode will not break lock-on if target signal is sufficient. • When the radar is locked on to a target in DM or DG mode, reselecting the same dogfight mode breaks target lock-on. Range gate slews out from rejected target to lock on to the first target that is at least 450 feet or greater in range. Holding switch at forward or aft position causes the range gate to return and stow at minimum range until the switch is released. The range gate may not be visible at minimum range. • If sight cage switch and either position (forward or aft) of the dogfight/resume search switch are actuated and held simultaneously, the dogfight/resume search switch should be released before releasing (approximately 1 second later) sight cage switch, to prevent radar from returning to search phase.
15 (F) (Front) Radar/ Reconnaissance Transfer Switch	FWD	— Transfers radar control to front cockpit and mode selected.
	AFT	— Transfers radar control to rear cockpit and mode selected.
<u>RADAR CONTROL PANEL</u> (16 thru 20)		
16 Elevation (ELEV) Antenna Tilt Control	Rotate	— Adjusts the antenna tilt angle up +45 and down -40 degrees relative to aircraft ARL. Elevation cursor on radar scope indicates antenna elevation tilt angle.

RADAR CONTROLS AND INDICATOR LIGHTS (Figure 1-15) (Continued) △

<table>
<tr><th>CONTROLS AND INDICATOR LIGHTS</th><th></th><th>FUNCTION</th></tr>
<tr><td rowspan="2">17 Target Designator Control (TDC) Button</td><td>Displaced From Center</td><td>— Positions acquisition symbol on radarscope in azimuth and range desired.</td></tr>
<tr><td>Center</td><td>— Acquisition symbol retains last position selected.</td></tr>
<tr><td>18 Range Selector</td><td>5/10/20/40</td><td>— Selects radar display range in NM.

NOTE

The Video knob must be rotated counterclockwise to decrease the video intensity prior to switching from 40 to 20-, 10-, or 5-mile range.</td></tr>
<tr><td rowspan="3">19 Radar Mode Selector</td><td>OFF</td><td>— Disconnects all electrical power to radar.

NOTE

• The selector must be pushed in to rotate from the STBY position to OFF.
• Ⓕ Both cockpit radar mode selectors should be at OFF to turn off the radar.</td></tr>
<tr><td>STBY</td><td>— Connects electrical power to warm up radar transmitter (3 to 5 minutes), energizes gyro, and aligns antenna with ARL. Within 60 seconds, the following appear on radar indicator:

Horizon bar
Antenna elevation cursor
Acquisition symbol (No symbol in 40-mile range.)
Range scale light
Range and azimuth grids</td></tr>
<tr><td>OPER</td><td>— Electrical power is supplied to all circuitry for radar search and track operation. If switching to OPER before warmup time (3 to 5 minutes) is completed, no search and track operation available.</td></tr>
</table>

RADAR CONTROLS AND INDICATOR LIGHTS (Figure 1-15) (Continued) ⚠2

CONTROLS AND INDICATOR LIGHTS		FUNCTION
19 Radar Mode Selector (Continued)	TEST	— Activates radar built-in-test (BIT) circuits. Failure of any function causes FAIL light on radar indicator to come on. **NOTE** The selector must be pushed in to rotate from the OPER position to TEST.
20 Acquisition (ACQ) Button	Press (Momentary)	— <u>In missile mode</u> — Compresses B-sweep at the target bracketed by acquisition symbol and moves to 20-degree left azimuth after radar lock-on. If locked on, pressing button breaks target lock-on and the acquisition symbol automatically positions to last known range and azimuth position of target to commence the acquisition process. **NOTE** Holding button pressed prevents radar lock-on. — <u>In gun modes</u> — Compresses and stows B-sweep at 20 degrees left, aligns antenna 0-degrees azimuth and -4.7 degrees below ARL and range gate slews from 500 feet to 5600 feet to lock on target. — <u>In either dogfight mode</u> — If locked on, breaks target lock-on. **NOTE** Momentarily pressing the ACQ button when the radar is locked on in gun or either dogfight mode breaks target lock-on. Range gate resumes slewing from rejected target to lock on to the first target that is at least 450 feet or greater in range. Holding the button pressed stows the range gate at minimum range until the button is released. The range gate may not be visible at minimum range.

RADAR CONTROLS AND INDICATOR LIGHTS (Figure 1-15) (Continued) ⚠2

CONTROLS AND INDICATOR LIGHTS	FUNCTION	
21 Sight Cage Switch	Press & Hold	— Aligns radar antenna to ARL in acquisition or track phase of DM, DG, and Gun mode. If locked on, the radar continues to range track target if sufficient signal is present. Releasing the switch causes the antenna to go back to the previous commanded position. **NOTE** If sight cage switch and either position (forward or aft) of the dogfight/resume search switch are actuated and held simultaneously, the dogfight/resume search switch should be released before releasing (approximately 1 second later) sight cage switch, to prevent radar from returning to search phase.
22 (F) (Rear) Radar/ Reconnaissance Override Switch	Off (Guard Closed)	— Permits radar/reconnaissance transfer switch in front cockpit to transfer radar control to either cockpit.
	ON	— Transfers control of radar to rear cockpit regardless of front cockpit radar/reconnaissance transfer switch position.
23 (F) (Rear) Video Trim Knob	Rotate	— Adjusts radar video display to match front cockpit video display when the front cockpit has control of radar. After videos are matched, no further in-flight adjustment of video trim should be required.
24 (F) (Rear) Mode Indicator Lights (White)	MSL On	— Missile mode selected in front cockpit.
	DF and GUNS On	— Dogfight gun mode selected in either cockpit.
	DF and MSL On	— Dogfight missile mode selected in either cockpit.
	GUNS On	— A/A1 or A/A2 gun mode selected in front cockpit.
	MAN On	— Manual mode selected in front cockpit.

Video Trim (Rear Cockpit)

Video trim consists of adjusting the rear cockpit video display to match the front display when the front cockpit has control of radar. Video trim is in addition to using the video knob on the rear cockpit radar indicator and affects the rear video display only. Adjusting the rear video display to balance with the front display is necessary to reduce video adjustment after control of radar is transferred. No further in-flight adjustment of video trim should be required.

RADAR OPERATION △

SEARCH PHASE

Target search is initiated by placing the radar mode selector at OPER after being in STBY for 3 to 5 minutes or by waiting 3 to 5 minutes in OPER. If the ACQ button has been activated, the dogfight/resume search switch must be pressed momentarily to enable the radar to search. In 40-mile range, the search pattern is a 1 bar antenna scan which covers 90 degrees in azimuth and 4 degrees above and below the antenna centerline. In 5-, 10-, or 20-mile range, the search pattern is a two-bar antenna scan, which steps up vertically 3 degrees when it reaches the right end, and steps down 3 degrees at the left end of the search pattern. The antenna is pitch and roll stabilized so that azimuth scan is a plane parallel to the earth surface regardless of aircraft roll attitude, preventing loss of the target and/or smearing of the display. A 360-degree compensation is provided about the aircraft roll axis and with the antenna set at either extreme limit of 45 degrees in elevation, 90 degrees of pitch compensation is provided in the opposite direction. Roll attitude of 360 degrees and pitch attitude of 50 degrees, less pitch knob trim, is displayed by the horizon bar. The antenna elevation position is independent of aircraft pitch attitude, and the angle between the antenna and the ARL is indicated by the elevation cursor on the right side of the scope display.

Target range is read off the range grid lines on the scope of radar indicator from minimum range at bottom, to maximum range at the top. For the selected range, the lines from bottom to top represent the following:

40-mile range — 8, 16, 24, 32 and 40 miles
20-mile range — 4, 8, 12, 16 and 20 miles
10-mile range — 2, 4, 6, 8 and 10 miles.
5-mile range — 1, 2, 3, 4 and 5 miles

The search phase incorporates an acquisition symbol (available in 5, 10 and 20-mile range) that is used for off-boresight acquisition in missile mode. The symbol consists of two vertical bars separated 10 degrees in azimuth which corresponds to the antenna acquisition horizontal scan limits. The vertical height of the symbol corresponds to the acquisition range interval of 2,200 feet in the 5-mile range and 4,400 feet in 10- and 20-mile range. The symbol can be positioned by TDC button out to a maximum range of 10 miles on the scope.

VIDEO ADJUSTMENT

The B-sweep moving right and left displays received radar return. The processor prevents an excessive amount of ground clutter by a clipping action which allows only stronger targets to appear from minimum range to approximately 6 miles. The clipping action is evident on the scope by an absence of receiver noise and a low clutter level from minimum range to 4 or 5 miles. Despite this clipping, a transmitter signal line at zero range and a small portion of an altitude line in the clutter region is usually present on the scope (figure 1-16). The altitude line is a return effect due to antenna side lobes and the nature of the terrain. Target visibility on the radarscope is controlled by the combination of brightness, persistence and video settings selected. Ambient light in the cockpit, target return strength, and interference and clutter conditions govern the control settings to be used. The video knob is turned clockwise to show a low level of receiver noise (beyond 5 miles) which gives a light-speckled effect to the radarscope. If heavier, more opaque areas of whiteness appear on the radarscope at this setting, turn the video knob counterclockwise un-

RADAR RETURNS (TYPICAL)

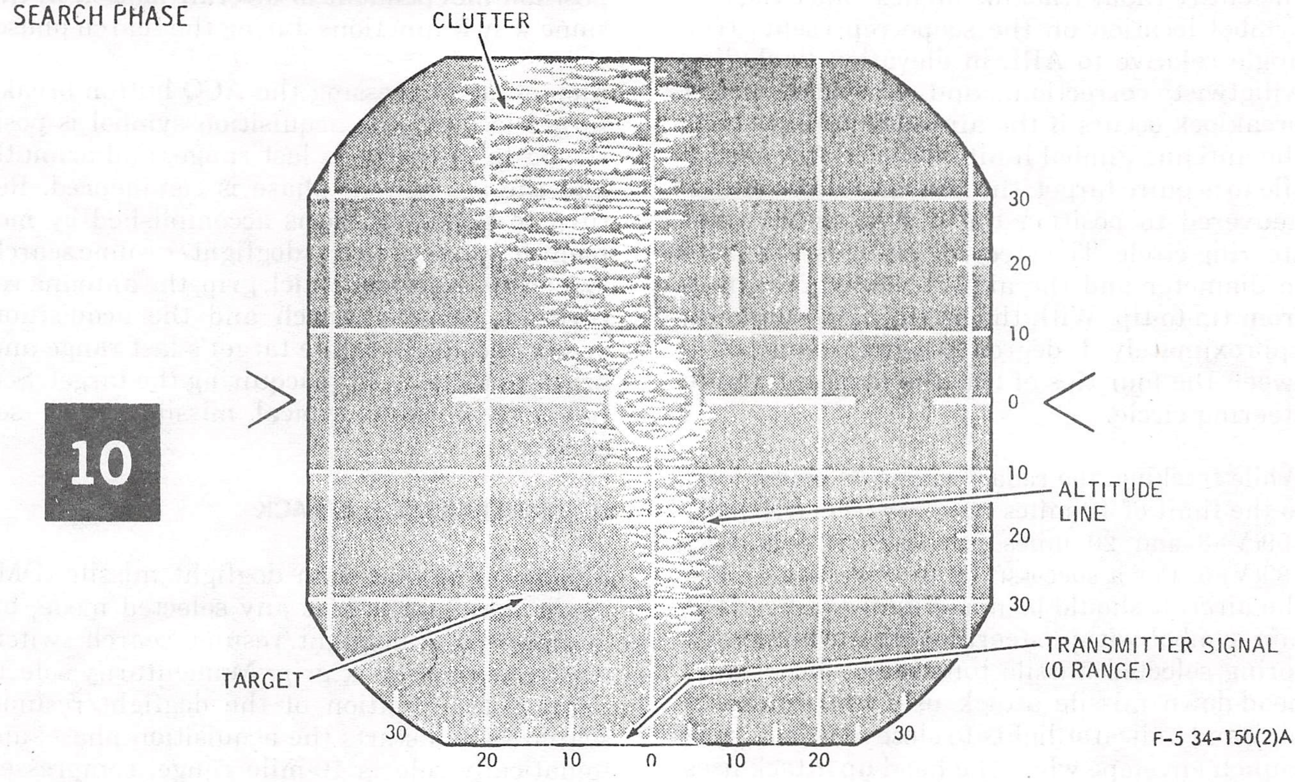


Figure 1-16.

til the intensity of the clutter is reduced sufficiently in the area of interest on the radarscope to see targets within the clutter.

MISSILE ATTACK, OFF-BORESIGHT ACQUISITION

When the radar is operating in search and target is detected, the missile mode is initiated by selecting MSL on the sight mode selector, positioning the acquisition symbol over target on scope and activating the ACQ button. Pressing the ACQ button starts the acquisition phase: automatically selects 10-mile range, radar set AN/APQ-159(V)-5 automatically selects 20-mile range if 40-mile was selected, compresses the B-sweep in azimuth within the area bracketed by the acquisition symbol. The anntena swings to spotlight target and scans a two-bar pattern of ±5 degrees in azimuth and ±1.5 degrees in elevation, centered about the horizontal position of the symbol and the selected antenna elevation cursor position. The radarscope displays only in the area subtended by the acquisition symbol width of 10 degrees. Video is shown throughout the selected range within the 10-degrees azimuth acquisition area.

MISSILE ATTACK, TRACK

Lock-on is automatic when the ACQ button is released. At target lock-on, the radar starts the tracking phase: the LK ON light comes on and the compressed B-sweep with the range gate and target stow at 20 degrees left, the acquisition symbol disappears and the elevation cursor is replaced by the aim symbol. Range and angle track occur automatically, the antenna conically scans about the target within limits of ±40 degrees in azimuth; 40 degrees, -36.5 degrees in elevation. Angle error signals are then developed to close the angle tracking loop thru the antenna gimbal drive. The aim symbol is displayed relative to the target; i.e., horizontal position is the azimuth and vertical is the ele-

vation position. The deflection of the aim symbol in elevation and azimuth is a linear over the entire radar tracking angles. Since the aim symbol location on the scope represents true angle relative to ARL in elevation (including wingtwist correction) and azimuth, target breaklock occurs if the aim symbol deflects to the antenna gimbal limits. For the AIM-9 missile to acquire target, the aircraft should be maneuvered to position the aim symbol within steering circle. The steering circle is 7 degrees in diameter and the aim symbol is 5 degrees from tip-to-tip. With the aim symbol centered, approximately 1 degree clearance exists between the four tips of the aim symbol and the steering circle.

While tracking, the radar range and angle track to the limit of 10 miles in radar set AN/APQ-159(V)-3 and 20 miles in radar set AN/APQ-159(V)-5. For a successful AIM-9 missile launch, the aircraft should be maneuvered to keep the aim symbol within steering circle while monitoring selected missile tone in the headset. A head-down missile attack uses the radar display and indicator lights to close within missile launch envelope while the head-up attack uses the dogfight missile mode and the sight reticle with markers.

During track, if the target amplitude falls below the minimum lock-on threshold, the system goes into memory for approximately 1.75 seconds. During memory, the range and angle trackers follow the last known rates. If the target reappears during this 1.75 seconds, the radar reverts back to tracking phase. If the target does not reappear, or its amplitude does not reach lock-on threshold, the radar returns to search phase. The antenna search elevation position reverts back to that commanded by the elevation tilt control. The acquisition symbol reappears on the display at the last target position prior to going into memory. Reacquisition of the target is accomplished by adjusting the elevation tilt, as required, to regain the target and then repeating the acquisition process. If, during acquisition, the ACQ button is released with insufficient target amplitude, the radar azimuth and range commands and the antenna elevation tilt control can still be positioned by the pilot. The antenna also maintains its space position independent of aircraft motion in the same way it functions during the search phase.

Momentarily pressing the ACQ button breaks target lock-on, the acquisition symbol is positioned to the target's last range, and azimuth and the acquisition phase is commenced. Return to search phase is accomplished by momentarily pressing the dogfight/resume search switch on the control stick grip; the antenna returns to resume search and the acquisition symbol positions to the target's last range and azimuth to assist in reacquiring the target. See figure 1-17 for a typical missile attack sequence.

DOGFIGHT MISSILE ATTACK

The radar is placed in dogfight missile (DM) mode, which overrides any selected mode, by activating the dogfight/resume search switch on the control stick grip. Momentarily selecting forward position of the dogfight/resume search switch starts the acquisition phase: automatically selects 10-mile range, compresses and stows the B-sweep at 20 degrees left, and aligns the antenna to ARL. The range gate appears, slewing out from 500 feet to 5 miles. If the target was placed approximately on 0 degrees azimuth and elevation and within 5-mile range before selecting dogfight missile mode, it will be repositioned on the compressed B-sweep at the appropriate range. When the range gate reaches the target, lock-on is automatic. At target lock-on, the radar range tracks the target, the LK ON light comes on, the range gate stows on target and the elevation cursor is replaced by the aim symbol. While tracking, the radar tracks to 10 miles. The aim symbol and radar indicator lights function the same as in missile mode. For a successful dogfight missile attack, the head-up attack must be applied, using the sight reticle with markers and crosschecking the radar display and indicator lights, if necessary.

During track, if the target return falls below the minimum lock-on threshold, the radar goes into memory for approximately 1.75 seconds.

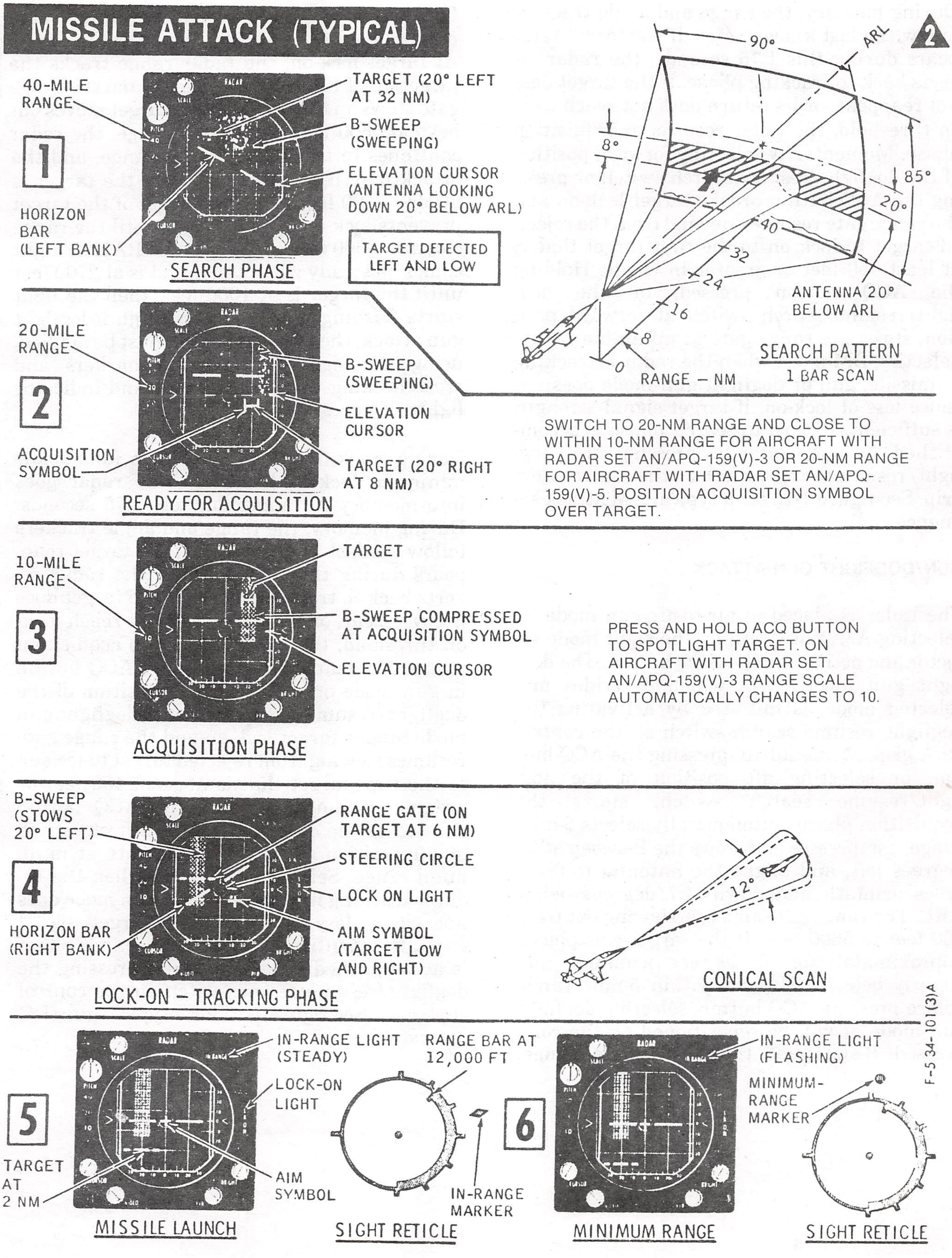

MISSILE ATTACK (TYPICAL)
1
40-MILE RANGE
TARGET (20° LEFT AT 32 NM)
B-SWEEP (SWEEPING)
ELEVATION CURSOR (ANTENNA LOOKING DOWN 20° BELOW ARL)
HORIZON BAR (LEFT BANK)
TARGET DETECTED LEFT AND LOW
SEARCH PHASE
2
90°
ARL
8°
85°
20°
40
32
24
16
8
0
ANTENNA 20° BELOW ARL
RANGE – NM
SEARCH PATTERN
1 BAR SCAN
2
20-MILE RANGE
B-SWEEP (SWEEPING)
ELEVATION CURSOR
ACQUISITION SYMBOL
TARGET (20° RIGHT AT 8 NM)
READY FOR ACQUISITION
SWITCH TO 20-NM RANGE AND CLOSE TO WITHIN 10-NM RANGE FOR AIRCRAFT WITH RADAR SET AN/APQ-159(V)-3 OR 20-NM RANGE FOR AIRCRAFT WITH RADAR SET AN/APQ-159(V)-5. POSITION ACQUISITION SYMBOL OVER TARGET.
3
10-MILE RANGE
TARGET
B-SWEEP COMPRESSED AT ACQUISITION SYMBOL
ELEVATION CURSOR
ACQUISITION PHASE
PRESS AND HOLD ACQ BUTTON TO SPOTLIGHT TARGET. ON AIRCRAFT WITH RADAR SET AN/APQ-159(V)-3 RANGE SCALE AUTOMATICALLY CHANGES TO 10.
4
B-SWEEP (STOWS 20° LEFT)
RANGE GATE (ON TARGET AT 6 NM)
STEERING CIRCLE
LOCK ON LIGHT
HORIZON BAR (RIGHT BANK)
AIM SYMBOL (TARGET LOW AND RIGHT)
LOCK-ON – TRACKING PHASE
12°
CONICAL SCAN
5
IN-RANGE LIGHT (STEADY)
LOCK-ON LIGHT
TARGET AT 2 NM
AIM SYMBOL
MISSILE LAUNCH
RANGE BAR AT 12,000 FT
IN-RANGE MARKER
SIGHT RETICLE
6
IN-RANGE LIGHT (FLASHING)
MINIMUM RANGE
MINIMUM-RANGE MARKER
SIGHT RETICLE
F-5 34-101(3)A

Figure 1-17.

During memory, the range and angle trackers follow the last known rates. If the target reappears during this 1.75 seconds, the radar reverts back to tracking phase. If the target does not reappear, or its return does not reach lock-on threshold, the radar returns to acquisition phase. Momentarily selecting forward position of the dogfight/resume search switch or pressing the ACQ button breaks target lock-on and the range gate resumes slewing from the rejected target to lock on to the first target that is at least 450 feet or greater in range. Holding the ACQ button pressed, or the dogfight/resume search switch at forward position, stows the range gate at minimum range. Selecting DM mode when the radar is tracking in missile, gun or dogfight gun mode does not cause loss of lock-on, if target signal strength is sufficient. Return to search phase is accomplished by momentarily pressing the dogfight/resume search switch on the control stick grip. See figure 1-18 for a typical DM attack sequence.

GUN/DOGFIGHT GUN ATTACK

The radar is placed in air-to-air gun mode by selecting A/A1 or A/A2 on the sight mode selector and activating the ACQ button. The dogfight gun mode (DG), which overrides any selected mode, is initiated by activating the dogfight/resume search switch on the control stick grip. Momentarily pressing the ACQ button, or selecting aft position of the dogfight/resume search switch, starts the acquisition phase: automatically selects 5-mile range, compresses and stows the B-sweep at 20 degrees left, and aligns the antenna to 0 degrees azimuth and down -4.7 degrees below ARL. The range gate appears, slewing out from 500 feet to 5600 feet. If the target was placed approximately on 0 degrees azimuth, and slightly below ARL, and within 5-mile range before pressing ACQ button/selecting dogfight gun mode, it will be repositioned on the compressed B-sweep at the appropriate range. Lock-on is automatic when the range gate reaches the target at 5600 feet or less in range. At target lock-on, the radar range tracks the target, the LK ON light comes on and the range gate stows on the target. If the target moves out beyond 5600 feet acquisition range, the radar continues to track to 10 miles range, and the attack may be continued. When the target is beyond 5600 feet range, rejection of the target prevents lock-on of that target until the range closes to 5600 feet or less. The IN RANGE light comes on steady when the target is at 2700 feet until the target is at 1000 feet, then the light starts flashing. For a successful gun/dogfight gun attack, the head-up attack must be applied, using the sight reticle with markers and crosschecking the radar display and indicator lights, if necessary.

During track, if the target return falls below minimum lock-on threshold, the radar goes into memory for approximately 1.75 seconds. During memory, the range and angle trackers follow the last known rates. If the target reappears during this 1.75 seconds, the radar reverts back to tracking phase. If the target does not reappear, or its return does not reach lock-on threshold, the radar returns to acquisition phase. Momentarily pressing the ACQ button in gun mode or reselecting aft position of the dogfight/resume search switch in dogfight gun mode breaks target lock-on and the range gate resumes slewing from rejected target to lock on to the first target that is at least 450 feet or greater in range. Holding the ACQ button pressed or the dogfight/resume search switch at aft position stows the range gate at minimum range. Selecting DG mode when the radar is tracking in missile, DM or gun mode does not cause loss of lock-on, if target signal strength is sufficient. Return to search phase is accomplished by momentarily pressing the dogfight/resume search switch on the control stick grip. See figure 1-19 for a typical gun/DG attack sequence.

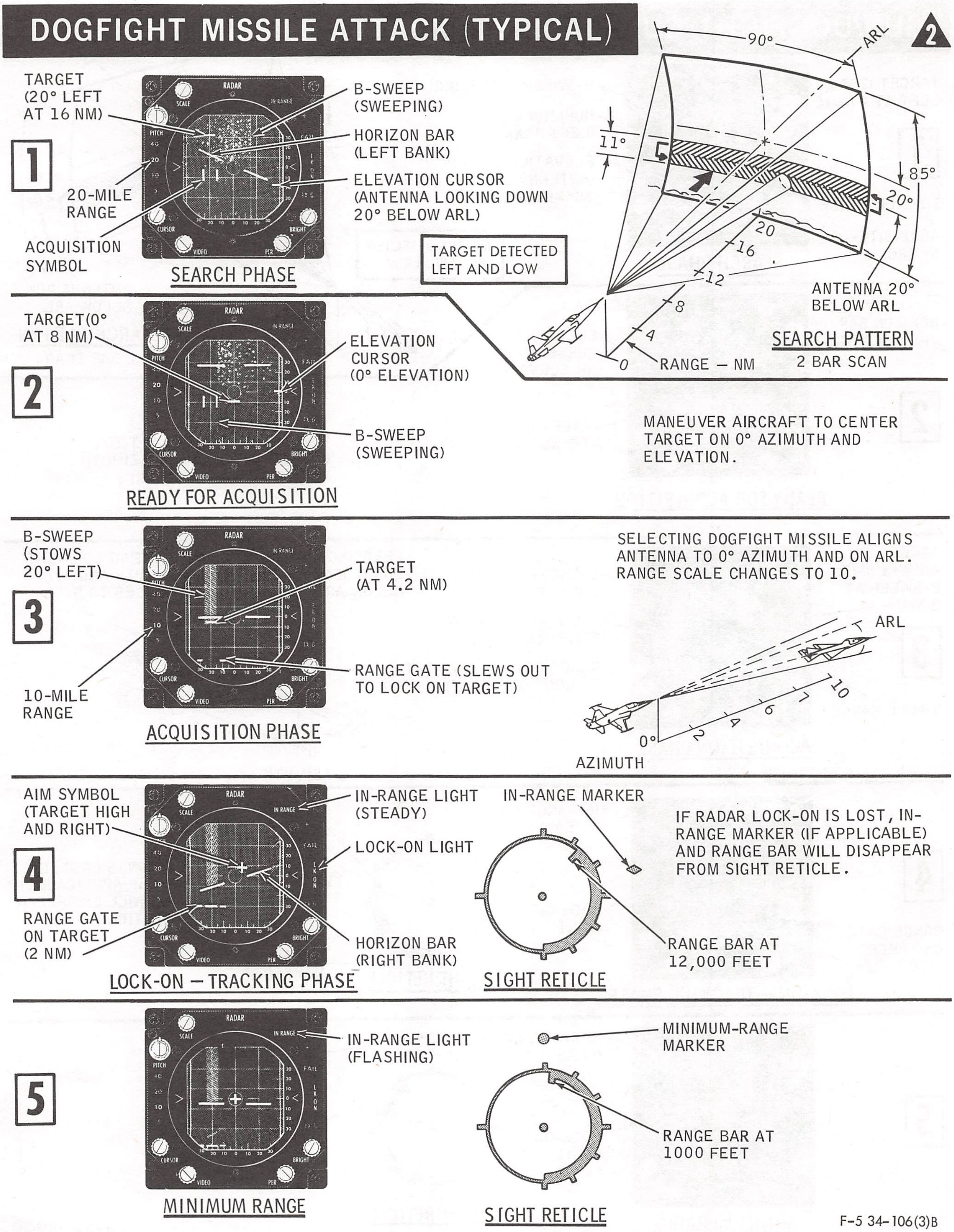

DOGFIGHT MISSILE ATTACK (TYPICAL)
1
TARGET (20° LEFT AT 16 NM)
B-SWEEP (SWEEPING)
HORIZON BAR (LEFT BANK)
ELEVATION CURSOR (ANTENNA LOOKING DOWN 20° BELOW ARL)
20-MILE RANGE
ACQUISITION SYMBOL
TARGET DETECTED LEFT AND LOW
SEARCH PHASE
90°
ARL
11°
85°
20°
ANTENNA 20° BELOW ARL
RANGE — NM
SEARCH PATTERN
2 BAR SCAN
2
TARGET(0° AT 8 NM)
ELEVATION CURSOR (0° ELEVATION)
B-SWEEP (SWEEPING)
READY FOR ACQUISITION
MANEUVER AIRCRAFT TO CENTER TARGET ON 0° AZIMUTH AND ELEVATION.
3
B-SWEEP (STOWS 20° LEFT)
TARGET (AT 4.2 NM)
RANGE GATE (SLEWS OUT TO LOCK ON TARGET)
10-MILE RANGE
ACQUISITION PHASE
SELECTING DOGFIGHT MISSILE ALIGNS ANTENNA TO 0° AZIMUTH AND ON ARL. RANGE SCALE CHANGES TO 10.
ARL
0°
AZIMUTH
4
AIM SYMBOL (TARGET HIGH AND RIGHT)
IN-RANGE LIGHT (STEADY)
LOCK-ON LIGHT
RANGE GATE ON TARGET (2 NM)
HORIZON BAR (RIGHT BANK)
LOCK-ON – TRACKING PHASE
IN-RANGE MARKER
RANGE BAR AT 12,000 FEET
SIGHT RETICLE
IF RADAR LOCK-ON IS LOST, IN-RANGE MARKER (IF APPLICABLE) AND RANGE BAR WILL DISAPPEAR FROM SIGHT RETICLE.
5
IN-RANGE LIGHT (FLASHING)
MINIMUM RANGE
MINIMUM-RANGE MARKER
RANGE BAR AT 1000 FEET
SIGHT RETICLE
F-5 34-106(3)B

Figure 1-18.

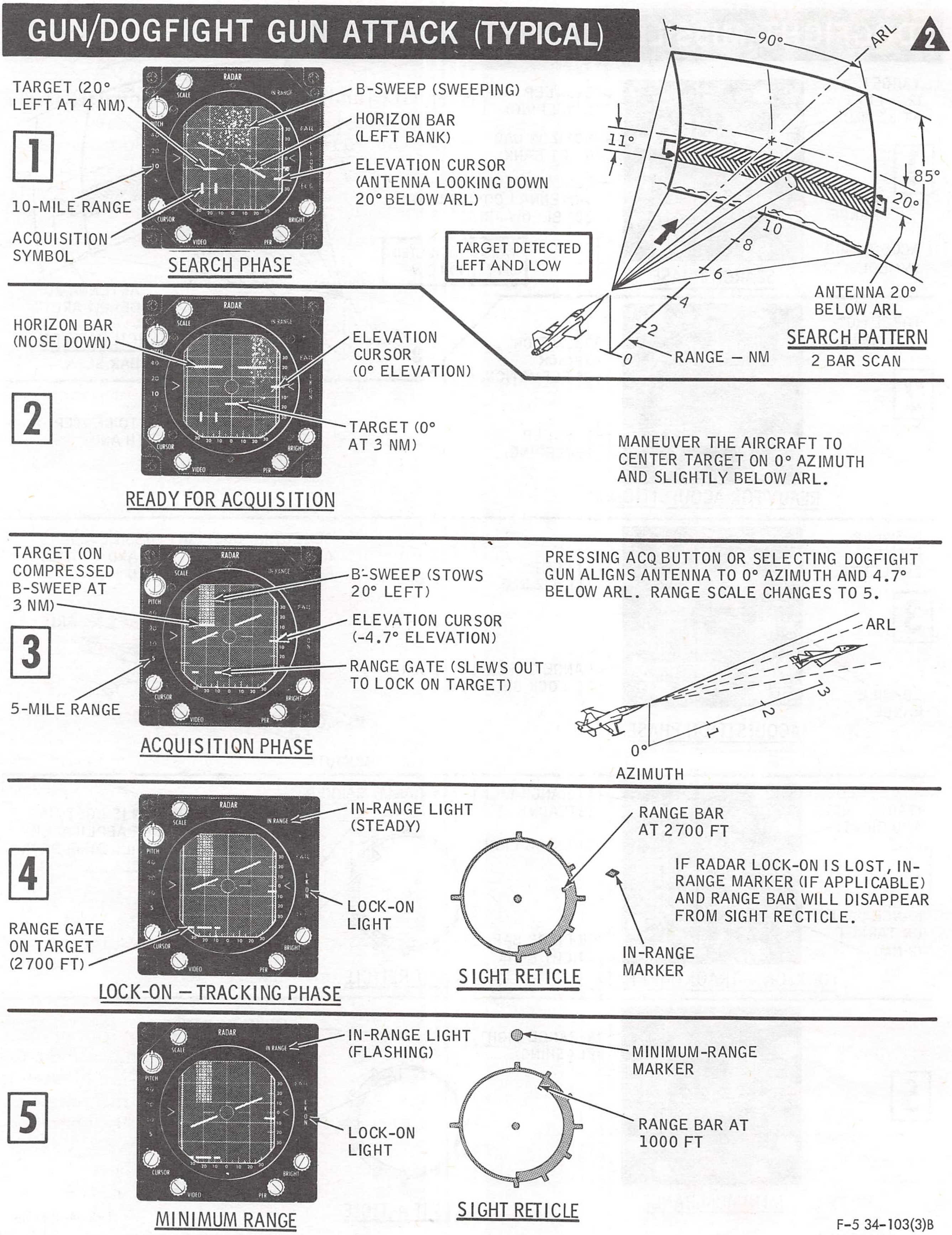

GUN/DOGFIGHT GUN ATTACK (TYPICAL)
2
1
TARGET (20° LEFT AT 4 NM)
10-MILE RANGE
ACQUISITION SYMBOL
B-SWEEP (SWEEPING)
HORIZON BAR (LEFT BANK)
ELEVATION CURSOR (ANTENNA LOOKING DOWN 20° BELOW ARL)
SEARCH PHASE
TARGET DETECTED LEFT AND LOW
90°
ARL
11°
85°
20°
10
8
6
4
2
0
RANGE – NM
ANTENNA 20° BELOW ARL
SEARCH PATTERN
2 BAR SCAN
2
HORIZON BAR (NOSE DOWN)
ELEVATION CURSOR (0° ELEVATION)
TARGET (0° AT 3 NM)
READY FOR ACQUISITION
MANEUVER THE AIRCRAFT TO CENTER TARGET ON 0° AZIMUTH AND SLIGHTLY BELOW ARL.
3
TARGET (ON COMPRESSED B-SWEEP AT 3 NM)
5-MILE RANGE
B-SWEEP (STOWS 20° LEFT)
ELEVATION CURSOR (-4.7° ELEVATION)
RANGE GATE (SLEWS OUT TO LOCK ON TARGET)
ACQUISITION PHASE
PRESSING ACQ BUTTON OR SELECTING DOGFIGHT GUN ALIGNS ANTENNA TO 0° AZIMUTH AND 4.7° BELOW ARL. RANGE SCALE CHANGES TO 5.
ARL
0°
AZIMUTH
4
IN-RANGE LIGHT (STEADY)
LOCK-ON LIGHT
RANGE GATE ON TARGET (2700 FT)
LOCK-ON – TRACKING PHASE
RANGE BAR AT 2700 FT
IN-RANGE MARKER
SIGHT RETICLE
IF RADAR LOCK-ON IS LOST, IN-RANGE MARKER (IF APPLICABLE) AND RANGE BAR WILL DISAPPEAR FROM SIGHT RECTICLE.
5
IN-RANGE LIGHT (FLASHING)
LOCK-ON LIGHT
MINIMUM RANGE
MINIMUM-RANGE MARKER
RANGE BAR AT 1000 FT
SIGHT RETICLE
F-5 34-103(3)B

Figure 1-19.

LEAD COMPUTING OPTICAL SIGHT SYSTEM

AN/ASG-29 SYSTEM ⚠

The AN/ASG-29 lead computing optical sight system (LCOSS) consists of a gyro lead computer (GLC) unit and an optical display unit (ODU). The AIM-9 missile select switch is provided to select the appropriate missile envelope program stored in the GLC. The ODU contains sight controls, a mirror drive assembly, and a combining glass which reflects the aiming reticle. Signals from the GLC adjust the mirror drive assembly to position the reticle on the combining glass and display the lead angle. Manual adjustment produces the depression angle for ground attacks. A built-in-test (BIT) feature is provided for cockpit checkout of the system. Sight panel lighting is controlled by armament light control knob on left vertical panel (front cockpit Ⓕ). The system interfaces with the fire control radar to compute and display lead for air-to-air gun attacks, compute missile launch envelope and indicate condition for AIM-9 missile delivery. When operating separately, the system provides a depressible roll stabilized reticle for air-to-ground attacks. The air-to-air gun, missile, and manual modes are selectable on the sight mode selector and the dogfight mode is initiated by activating the dogfight button on the control stick grip. The reticle can be caged to ARL in all operating modes. The two air-to-air gun modes, A/A1 for use against maneuvering targets and A/A2 for unaccelerated constant rate maneuvering targets, provide attack parameters to permit the use of nontracking (snap-shoot) and conventional target tracking techniques for air-to-air gun attacks. See figure 1-20 for location of controls and a view of the reticle image.

NOTE

- On aircraft equipped with the fast-erect switch, bombing accuracy can be improved by insuring that the AHRS two-gyro platform is fully erected before bomb delivery. If conditions permit, gyro precession error can be removed by actuating push fast-erect switch on instrument panel.
- On aircraft with radar set AN/APQ-159(V)-5, the control stick grip is that denoted by ⚠ in figure 1-20.

AN/ASG-31 SYSTEM ⚠

The AN/ASG-31 lead computing optical sight system (LCOSS) consists of a gyro lead computer (GLC) and an optical display unit (ODU). The AIM-9 missile select switch is provided to select the appropriate missile envelope program stored in GLC. The ODU contains sight controls, mirror drive assembly, and a combining glass. Signals from GLC adjust the mirror drive assembly to position the reticle on the combining glass and display the lead angle. Manual adjustment produces the depression angle for ground attacks. A built-in-test (BIT) feature is provided for cockpit checkout of system. Sight panel lighting is controlled by armament light control knob on left vertical panel (front cockpit Ⓕ) and panel light on the sight panel. The system interfaces with the fire control radar to compute and display lead for air-to-air gun attacks, compute missile launch envelope and indicate launch data for AIM-9 missile delivery. When operating separately, the sytem provides a depressible roll-stabilized reticle for air-to-ground attacks. Mode selections provide three operational modes: missile, A/A1 and A/A2 guns, and manual. The two air-to-air gun modes, A/A1 for use against maneuvering targets and A/A2 for unaccelerated constant rate maneuvering targets, provide attack parameters to permit the use of nontracking (snap-shoot) and conventional target tracking techniques for air-to-air gun attacks. In missile mode, the system provides steering reference toward the locked-on target. The dogfight missile (DM) and dogfight gun (DG) modes, which override all operating modes are initiated by selecting forward or aft position of the dogfight/resume search switch on the control stick grip. The reticle can be caged to ARL in all operating modes. See figure 1-20 for location of controls and a view of the reticle image.

RETICLE IMAGE

The reticle image is projected onto the combining glass by the mirror drive assembly and consists of a 2-mil pipper within a 50-mil-diameter circle. After radar lock-on to the target, event markers appear outside of the circle when certain range and g-load conditions exist. A range bar, positioned by signals from the radar, extends from the 6-o'clock position on the inner

SIGHT CONTROLS & LIGHTS

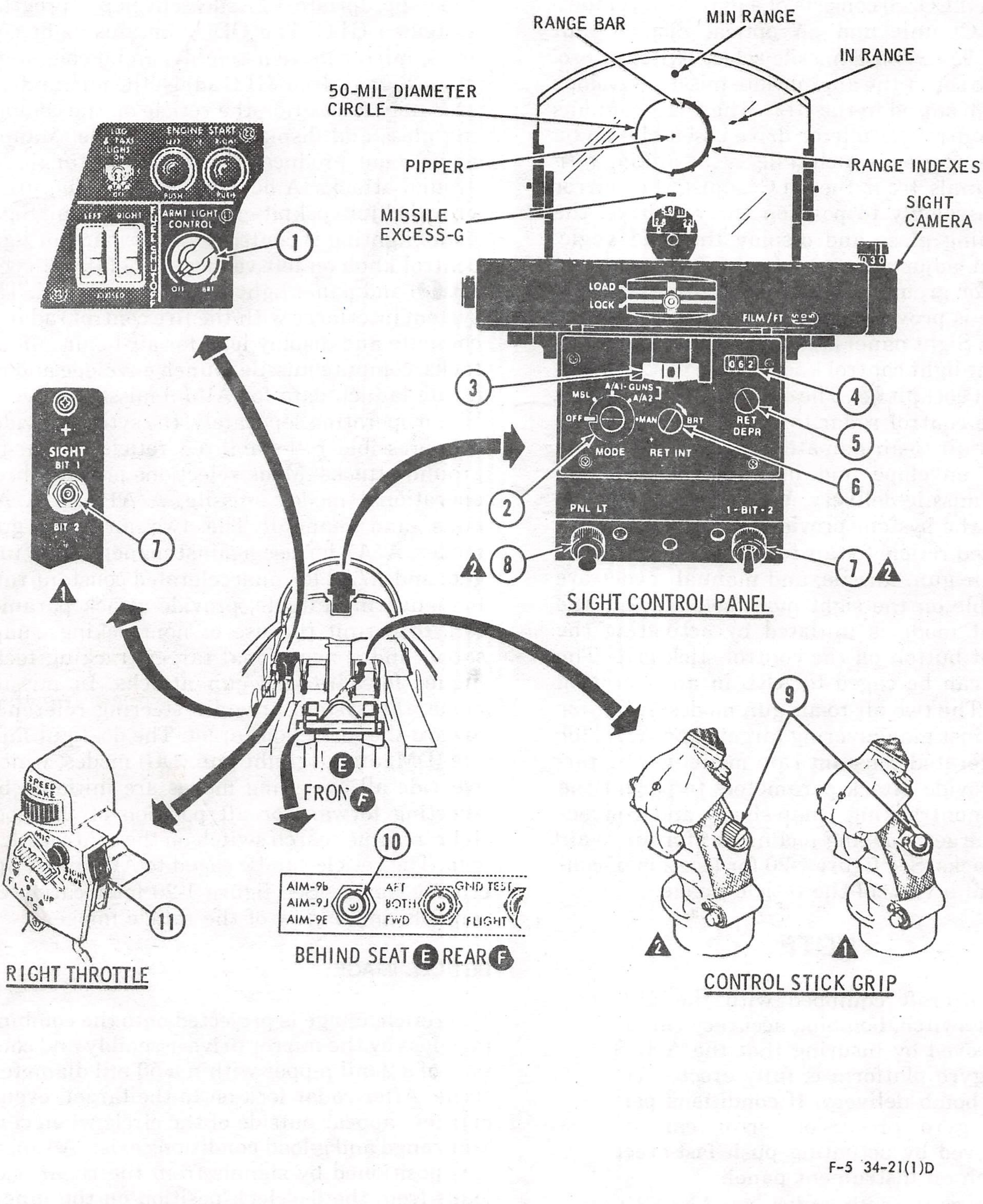


Figure 1-20.

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SIGHT CONTROLS AND LIGHTS (Figure 1-20)

CONTROLS AND LIGHTS	FUNCTION	
1 Armament Panel Lights Knob	Rotate	— Adjusts light intensity of sight panel.
SIGHT CONTROL PANEL (2 thru 8)		
2 Mode Selector	OFF	— Disconnects electrical power to LCOSS.
	MSL	— ⚠1 Displaces the reticle pipper down from the ARL due to the wingtwist. With radar lock-on, missile launch envelope data are presented on the reticle.
		— ⚠2 Aligns the reticle pipper to ARL. With radar lock-on, missile launch envelope data are presented on the reticle, and pipper is slaved to the radar antenna to indicate the relative position to target.
	A/A1 GUNS	— Selects lead computation for maneuvering target. With radar lock-on, pipper is computed and positioned by GLC.
	A/A2 GUNS	— Selects lead computation for unaccelerated constant rate maneuvering target. With radar lock-on, pipper is computed and positioned by GLC.
	MAN	— Pipper is roll-stabilized and may be manually depressed for air-to-ground attack.
3 Slip Indicator	Indicates slip or skid.	
4 Reticle Depression Readout Window	Indicates reticle depression setting selected with reticle depression knob.	
5 Reticle Depression Knob	Rotate	— Selects reticle depression in MAN mode.
6 Reticle Intensity Knob	Rotate	— Adjust light intensity of reticle.
7 Sight BIT Switch	Provides activation of sight built-in-test circuits. See Sight Check in section II for test selections and indications.	

SIGHT CONTROLS AND LIGHTS (Figure 1-20) (Continued)

CONTROLS AND LIGHTS	FUNCTION	
8 ⚠2 Sight Panel Light (PNL LT) Button	Push On	— Turns on the sight panel light. **NOTE** Armament panel lights knob should be on.
	Push Off	— Turns off the sight panel light.
9 ⚠ Dogfight Button	Press (Momentary)	— Selects DG mode (A/A1 gun mode), regardless of sight operating mode selected, and pipper is slaved to GLC. Resume search button actuation returns sight to mode selector control.
⚠2 Dogfight/Resume Search Switch	Aft Position (Momentary)	— Selects DG mode, regardless of sight mode selected. The sight functions as in A/A1 gun mode.
	Forward Position (Momentary)	— Selects DM mode, regardless of sight mode selected. Displaces reticle pipper below ARL by an angle equal to the wingtwist. With radar lock-on missile launch envelope data are presented on the reticle.
	Center Position Press (Momentary)	— Rejects dogfight mode and returns sight to mode selector.
10 AIM-9 Missile Select Switch	AIM-9B	— Selects AIM-9B series missile launch envelope programmed in GLC.
	AIM-9E	— Selects AIM-9E series missile launch envelope programmed in GLC.
	AIM-9J	— Selects AIM-9J series missile launch envelope programmed in GLC. **NOTE** AIM-9J position should be selected when carrying AIM-9N and AIM-9P series missiles.

SIGHT CONTROLS AND LIGHTS (Figure 1-20) (Continued)

CONTROLS AND LIGHTS	FUNCTION	
11 Sight Cage Switch	Press and Hold	— Ⓐ Electrically cages (aligns) pipper to ARL in all modes except OFF. Pipper returns to computed or preset depression position when switch is released. — Ⓐ Electrically cages (aligns) pipper to ARL in all modes except OFF, and aligns radar antenna to ARL in acquisition or track phase of DM, DG, and guns modes. Pipper returns to computed or preset depression position when switch is released.

right side of the circle toward the 12-o'clock position, depending on target range. Each range index indicates 1000 feet in gun modes, and 10,000 feet in missile mode. Range of 6000 feet in gun modes or 60,000 feet in missile mode is indicated when the leading edge of the range bar is at the 6-o'clock position. Decreasing range is shown as the bar extends up the reticle circle with minimum displayed range of 500 feet (gun modes) indicated at the 12:30-o'clock position. In gun modes, lock-on does not normally occur beyond 5000 feet target range. Without radar installed, the reticle does not display range bar, in-range, minimum-range, and excess g information at any time other than during the ground BIT checks.

LEAD COMPUTING OPTICAL SIGHT SYSTEM Ⓕ

The LCOSS is controlled from the front cockpit only and functions the same as the Ⓔ, except that either cockpit can switch the system to dogfight mode(s). The mode lights above the radar indicator in the rear cockpit provide indication of mode selected.

SYSTEM OPERATION

Missile Mode Ⓐ

In missile mode, the LCOSS computes the selected launch envelope, using altitude, true airspeed, and mach number signals from the central air data computer (CADC); and range and range rate signals from the radar (figure 1-21). The sight is placed in missile mode of operation by positioning the sight mode selector to MSL. The reticle is caged in azimuth and displaced down in elevation from ARL to compensate for the downward rotation of the missile resulting from wing twist and seeker head precession. Downward rotation is calculated from g's measured by an accelerometer in the GLC. After radar lock-on, the range bar is displayed on reticle, indicating target range from 0 to 60,000 feet. Appearance of the in-range marker with no excess-g marker indicates that you are within the missile launch envelope for a pure pursuit attack of the target. Appearance of the minimum-range marker or excess-g marker, or both, indicates that you are outside the missile launch envelope.

SIGHT SYSTEM MISSILE MODE

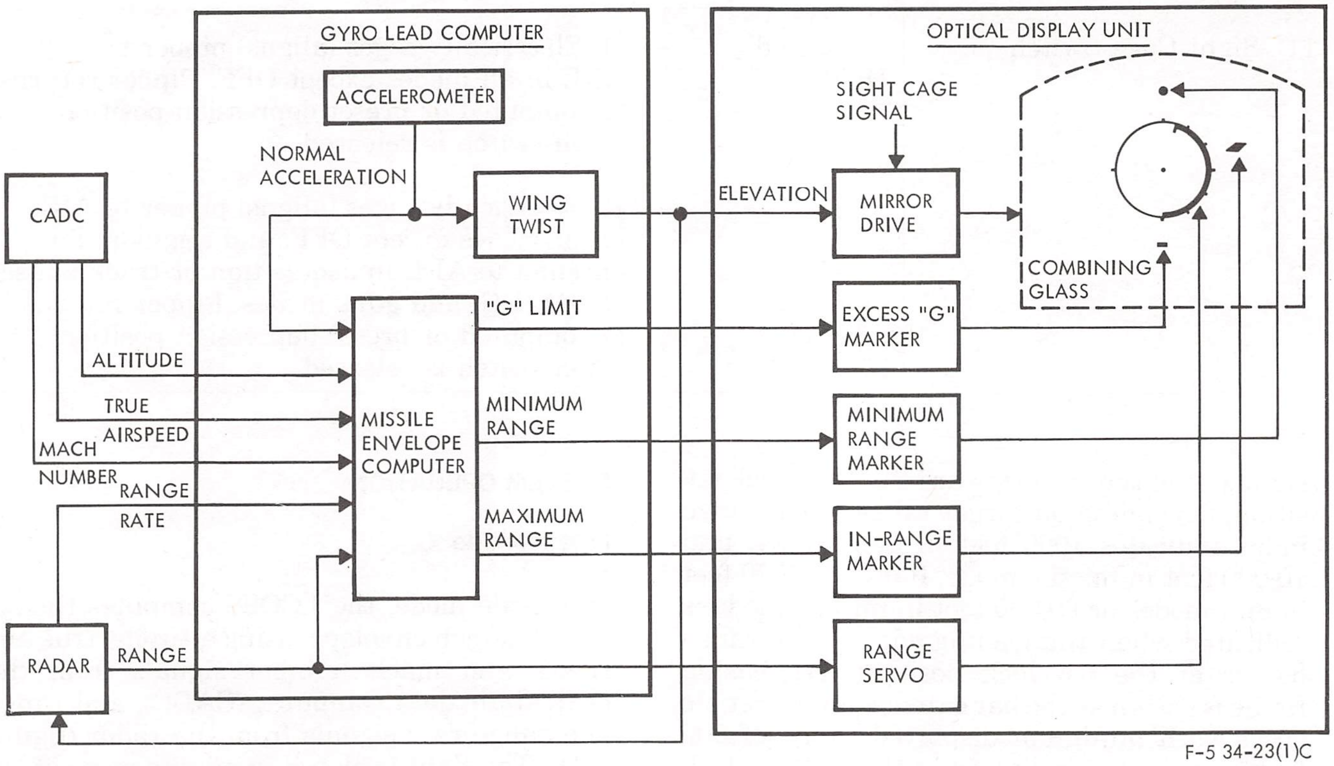


Figure 1-21.

Missile Mode ⚠2

In missile mode, the LCOSS computes selected launch envelope using altitude, true airspeed, and mach number signals from CADC, with azimuth, elevation track, and range, and range rate signals from radar (figure 1-22).

The sight is placed in missile mode of operation by positioning sight mode selector to MSL, which cages reticle pipper to ARL. After radar lock-on, the pipper is slaved to radar antenna, indicating the relative position to target within gimbal limit (approximately ±104 mils in azimuth, +35 mils to -200 mils in elevation), and range bar is displayed on the reticle, indicating target range from 0 to 60,000 feet. The in-range marker is illuminated when radar range is equal to or less than the computed maximum launch range and greater than minimum-range. The minimum-range marker is illuminated when radar range is equal or less than the computed missile minimum launch range. The excess-g marker illumination indicates the g force affected on aircraft is in excess of the values for missile firing during pursuit tracking.

Dogfight Missile Mode ⚠2

The sight is placed in dogfight missile mode by selecting forward position of dogfight/resume search switch on the control stick grip. With radar lock-on, the reticle is caged to 0 degrees in azimuth and displaced down in elevation to compensate for rotation of the missile resulting from wingtwist and missile seeker head precession. The range bar, in-range, minimum-range, and excess g markers are presented as in missile mode.

SIGHT SYSTEM MISSILE MODE

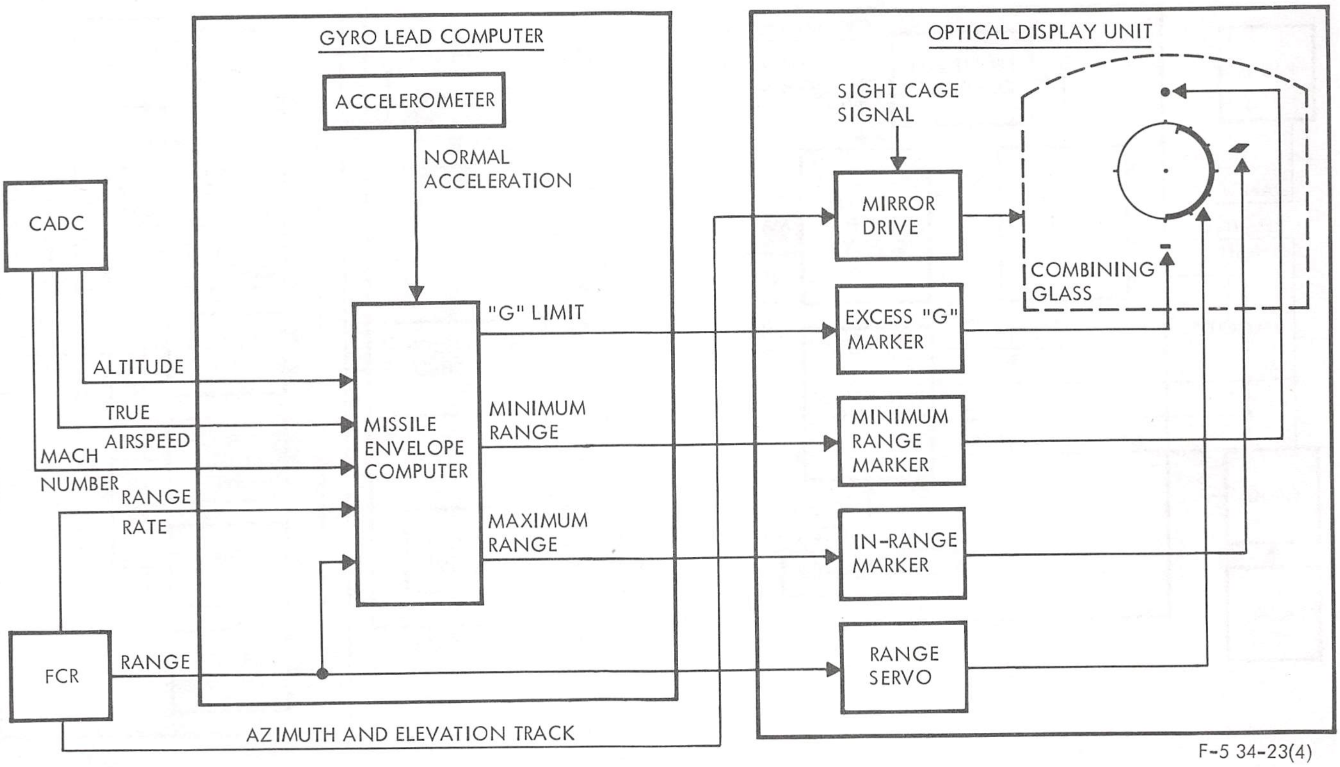


Figure 1-22.

Gun A/A1 or A/A2 Modes

In gun modes of operation, the sight system calculates the lead angle and displaces the reticle from the ARL (gun line). The GLC computes target motion, projectile drop, and trajectory shift components of the lead angle by sensing motion and using range and range rate information from the radar and air density, true airspeed, and angle of attack from the CADC (figure 1-23). The sight is placed in the gun modes of operation by selecting A/A1 or A/A2 on the sight mode selector.

After radar lock-on, the GLC uses radar range and range rate out to 2700 feet, the effective range of the guns, for lead angle computation. At target ranges beyond 2700 feet, a fixed 2700-foot range value and actual range rate are used to prevent excessive reticle movement. The range of the target is indicated by the position of the range bar. At displayed ranges of 2700 feet to 1000 feet, the in-range marker appears. At ranges below 1000 feet, the minimum range (breakaway) marker appears and the in-range marker disappears. If radar lock-on is lost or is not acquired, the GLC uses fixed values of 1500-foot target range and approximately 90-knot overtake speed for lead angle computation.

Dogfight Gun Mode

The sight is placed in dogfight gun mode, which overrides all operating modes by momentarily 1 pressing the dogfight button, 2 selecting aft position of the dogfight/resume search switch on the control stick grip. The sight functions in A/A1 mode.

SIGHT SYSTEM GUN/DOGFIGHT GUN MODE

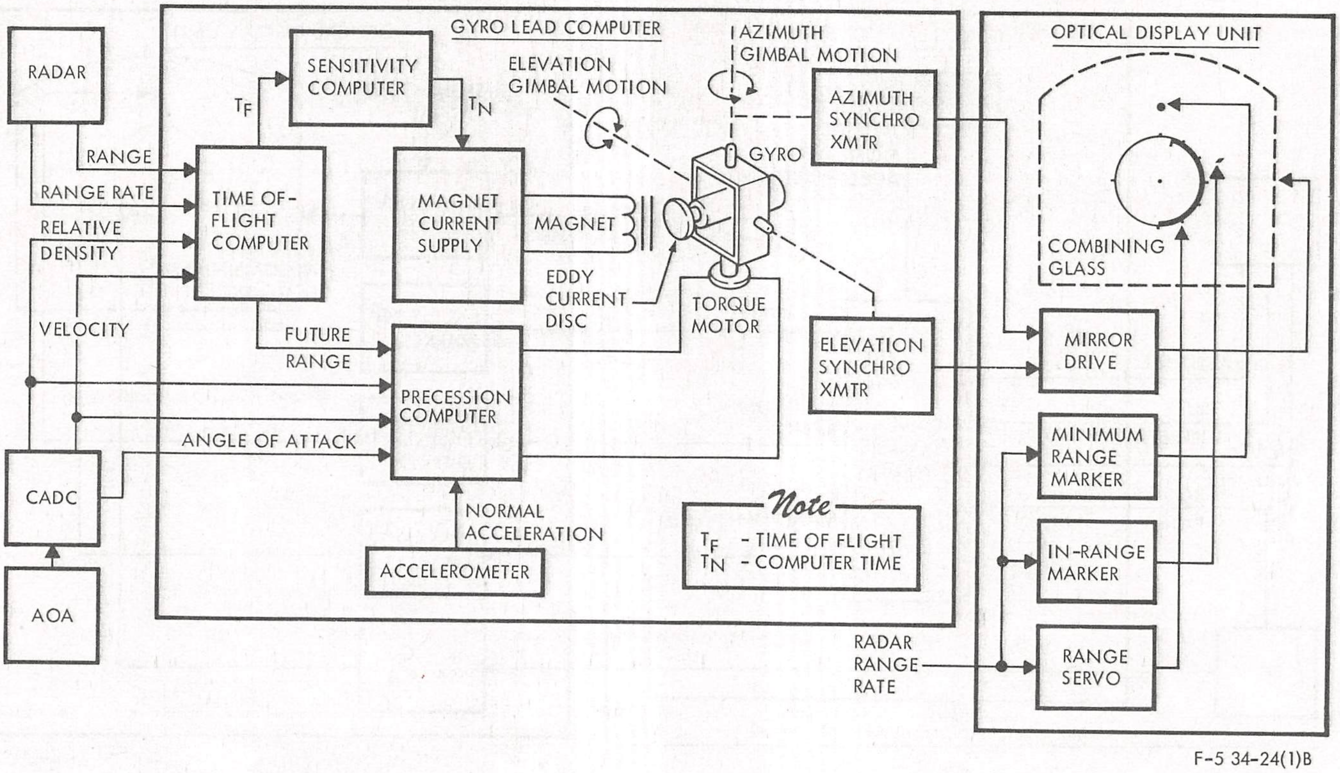


Figure 1-23.

Manual Mode

In the manual mode, the sight provides a roll stabilized, manually depressible pipper for air-to-ground attack. Roll stabilization compensates for the pendulum effect for bank angles up to 22.5 degrees, which is the servoed limit of the mirrors. The pipper represents actual ground track while the pilot corrects pipper drift toward the aim point at 22.5 degrees of bank or less. The pipper is a valuable aiming reference if the bomb must be released in a slight bank. The manual mode may also be used for air-to-air as a backup aiming reference if the gun, missile or dogfight modes are inoperative. Range bar positioning with a radar lock-on is the same as gun; however, the in-range, minimum-range and excess-g limits are inoperative. If target lock-on is lost, an approximation of target range can be obtained by comparing the target wingspan with the reticle diameter.

Built-In-Test

A sight built-in-test (BIT) function is provided for ground checking proper operation of the sight in all modes of operation (with aircraft at rest). During the test in each mode, correct sight reticle displays indicate the proper functioning of the LCOSS. See section II for sight BIT procedures.

GUN EMPLOYMENT CONCEPT

LEAD COMPUTATION

The largest component of the lead angle is usually lead for target motion (figure 1-24). Precession of the sight gyro measures the turning rate of the line of sight to produce target motion lead. The pipper is linked to the gyro which maintains its orientation in space unless acted upon by an outside force. When the attack aircraft is maneuvered to bring the pipper to the target, a magnet which is aligned with the gun line and is one of the precessing forces acting on the gyro causes the gyro spin axis to follow the magnet axis thru the eddy current control system. The amount by which the gyro spin axis lags behind the magnet axis is target motion lead angle and depends on turning rate and current strength supplied to the magnet. Magnet current is controlled by measurements of target range, range rate, air density, and attack airspeed, which adjust the gyro spin axis (and pipper) in azimuth. Corrections for gravity drop of the projectile and for trajectory shift are introduced by a torque motor on the vertical axis of the gyro which exerts a precessing force and depresses the gyro and pipper in elevation. The amount of current supplied to the motor, and the resultant depression, depend on acceleration, angle of attack, time of flight, and air density measurements. Thus, current supplied to the magnet and torque motor, along with the turn rate, produce the lead angle. The lead angle calculation process is accomplished when target range and air data enter the time-of-flight computer.

AIR-TO-AIR GUN ATTACK

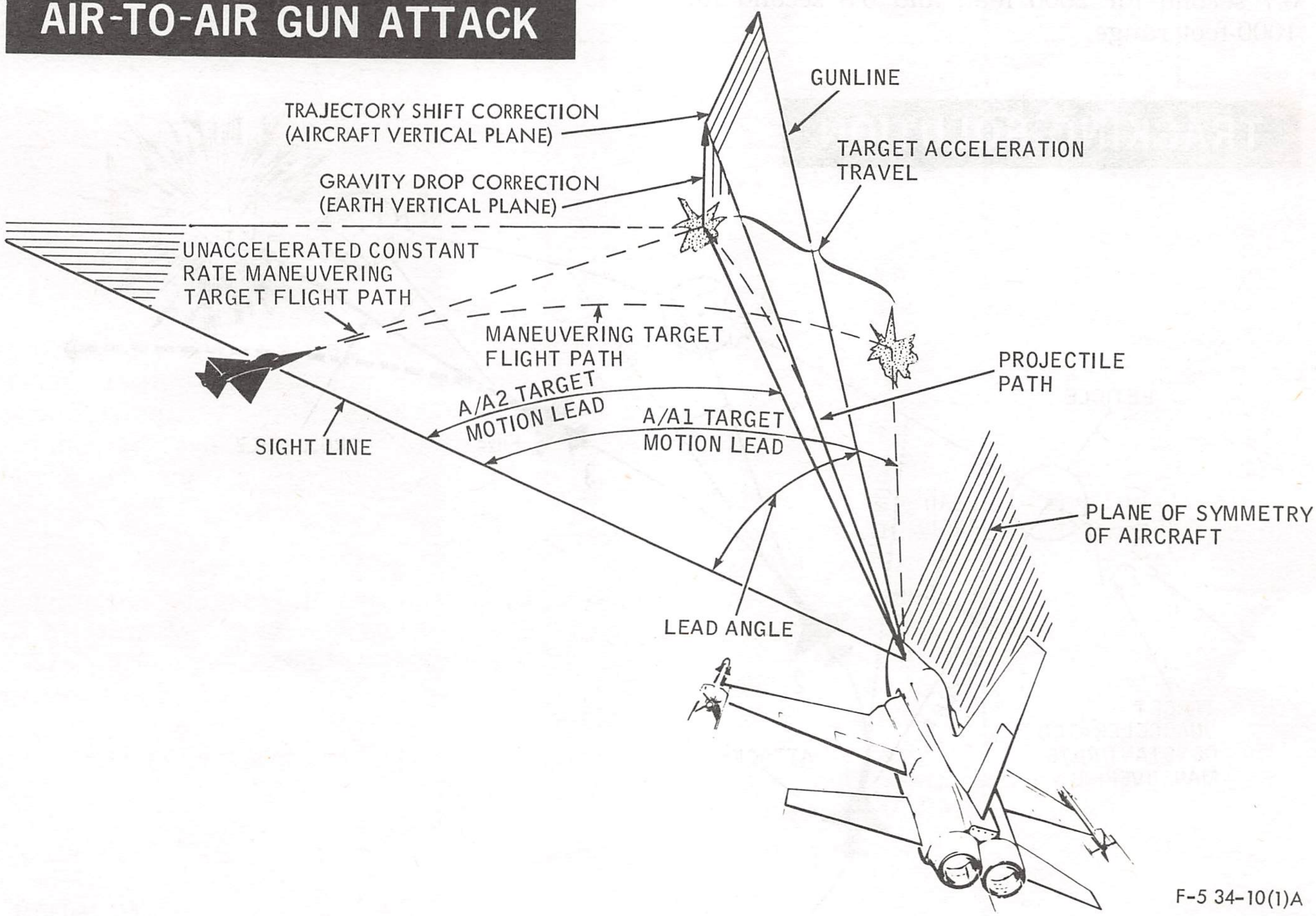


Figure 1-24.

Time of flight is supplied to the sensitivity computer which applies a factor, depending on the selection of A/A1 or A/A2. The resulting value is converted to current and is supplied to the magnet which, interacting with the eddy current disc, modifies the gyro axis displacement due to turning to produce azimuth lead and a portion of elevation lead. Concurrently, time of flight and air data, along with the accelerometer signal, enter the precession computer where the current for the gimbal torque motor is developed to produce elevation lead. The gyro-produced components of the lead angle are transmitted to the mirror drive in the ODU which positions the reticle on the combining glass.

During air-to-air engagements, projectile time of flight for the effective range of the guns (2700 feet) is approximately 1 second. Approximations of time of flight for other ranges are 0.7 second for 2000 feet, and 0.3 second for 1000-feet range.

TRACKING SOLUTION

The pipper is displayed one projectile time-of-flight from the gun line for the rate the attack aircraft is turning and target range. When tracking, the pipper remains one time-of-flight away from target future position to provide a continuous solution to the aiming problem. Keep the pipper on the target while turning and firing to direct the projectiles to the target future position for hits. Track the target for 1/2 second to eliminate any motion between the pipper and target before firing. Keep the pipper motionless on the target to get maximum concentration of hits (figure 1-25). Any pipper motion with respect to the target can result in misses. The tracking solution is primarily used in A/A2 gun mode against the unaccelerated constant rate maneuvering target.

TRACKING SOLUTION

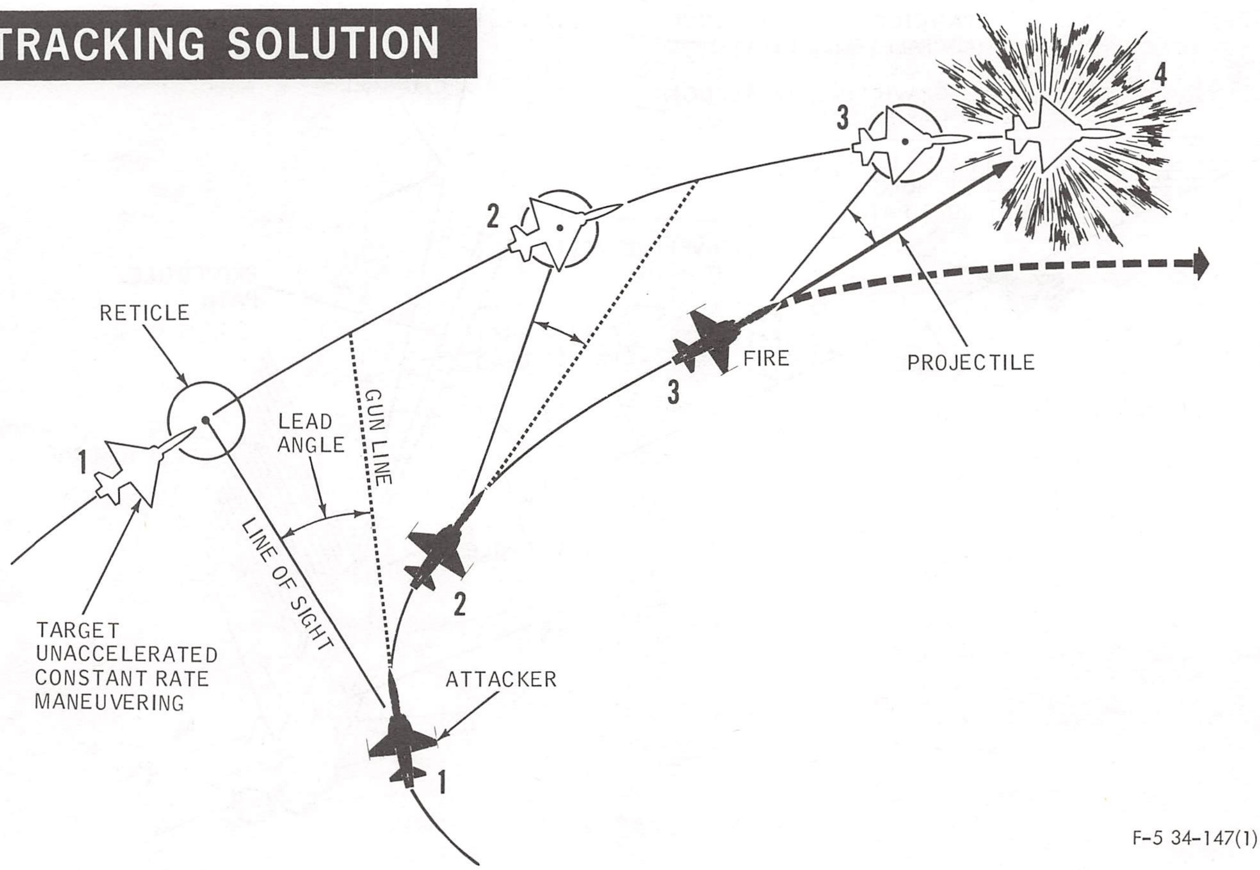


Figure 1-25.

NONTRACKING SOLUTION

The nontracking solution (snapshoot) should be used only in A/A1 gun mode when unable to track a maneuvering target. The sight system provides a momentary solution to the aiming problem. Start to fire one projectile time-of-flight before the pipper reaches the target future position (figure 1-26). The aim and open fire point is no longer the target position as in tracking solution because pipper displacement results from the relative motion of the target to the pipper. The task is to project target and pipper motion to a point of intersection and to fire approximately one projectile time-of-flight before intersection would occur. It is not necessary that the pipper and target actually intersect. Rather they need only to appear to approach intersection one projectile time-of-flight later.

Figure 1-27 illustrates the nontracking (snapshoot) technique and shows the pipper at 1-second intervals during an attack. Assuming a projectile time-of-flight of 1 second, if firing is initiated at position 2 and pipper and target motion are such that the pipper would have been at position 3 one second later, hits will occur at position 3. If firing is continued from position 2 to position 3 and pipper and target motions are constant during this period such that the pipper would have moved from position 3 to position 4 in the next 1-second interval, hits occur from position 3 toward position 4. The rate of convergence of the pipper with the target determines the projectile concentration at the target. A relatively low rate of convergence (5 to 15 mils per second) is optimum for projectile concentration and estimating the timing of the firing burst. An attack in the plane of the target makes estimation easier. The pipper may be brought to the target from any direction. In either the tracking or snapshoot attacks, move the controls smoothly to reach and maintain firing position. Allow for 0.25-second delay in firing after squeezing the trigger caused by operation of the gun gas purging and deflector system, if not already opened.

NONTRACKING SOLUTION

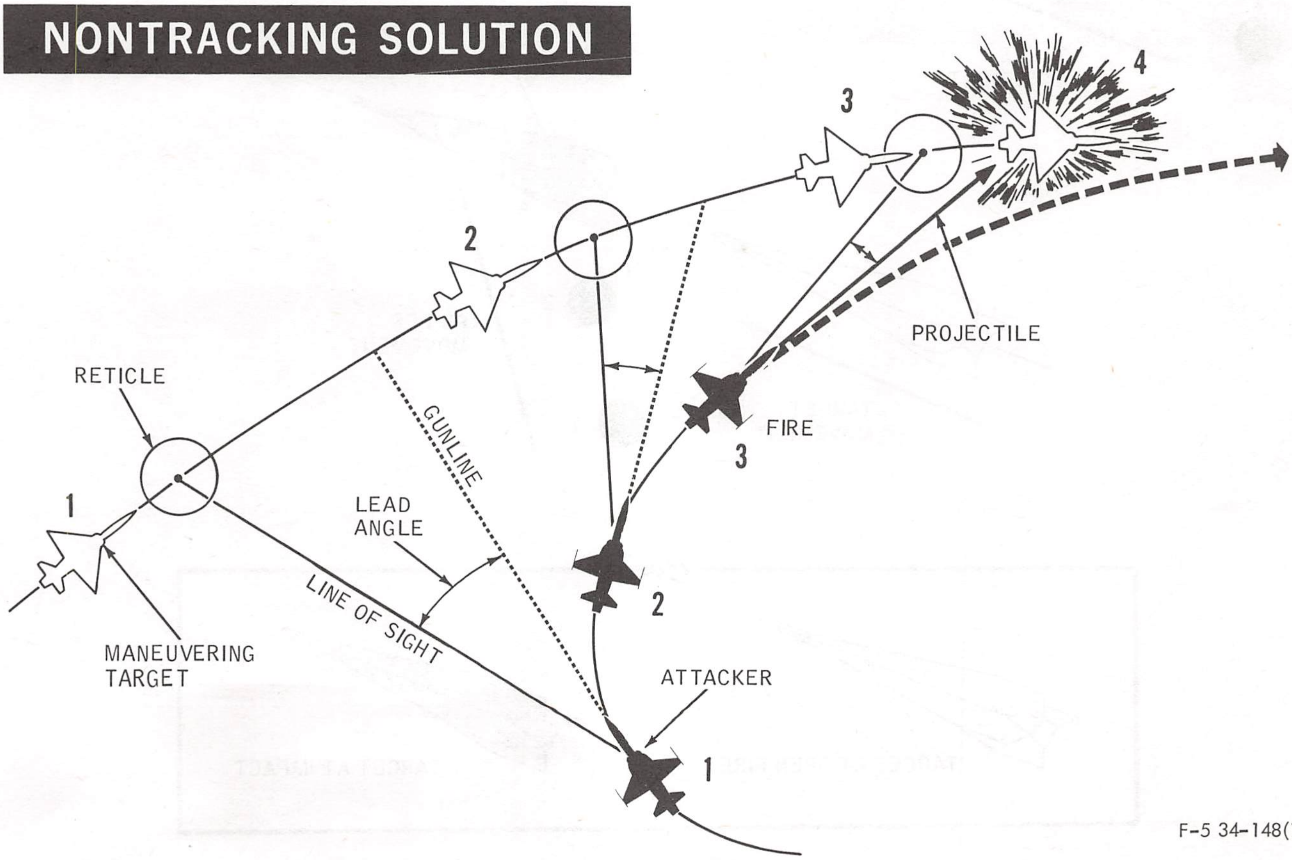


Figure 1-26.

SNAPSHOOT ATTACK

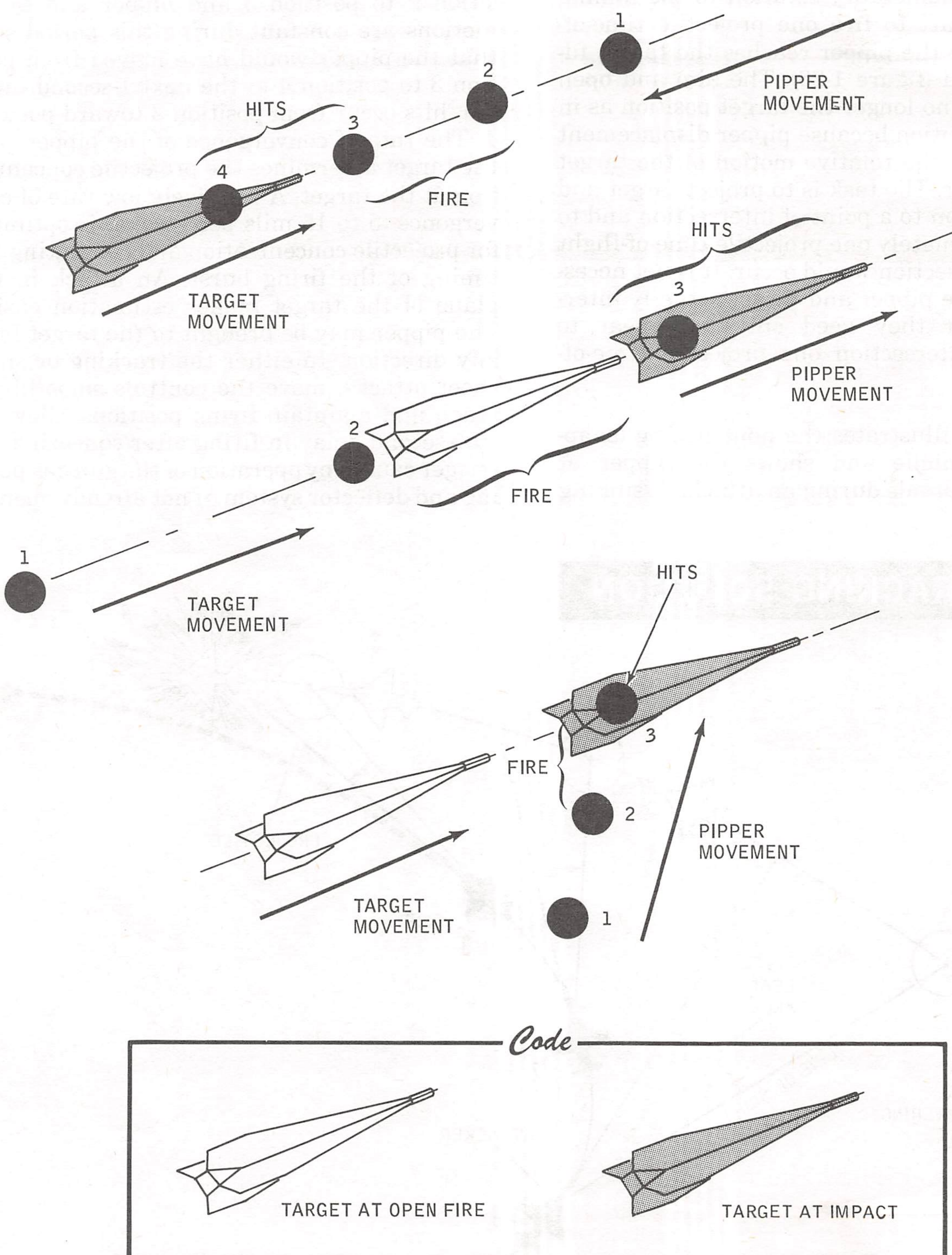


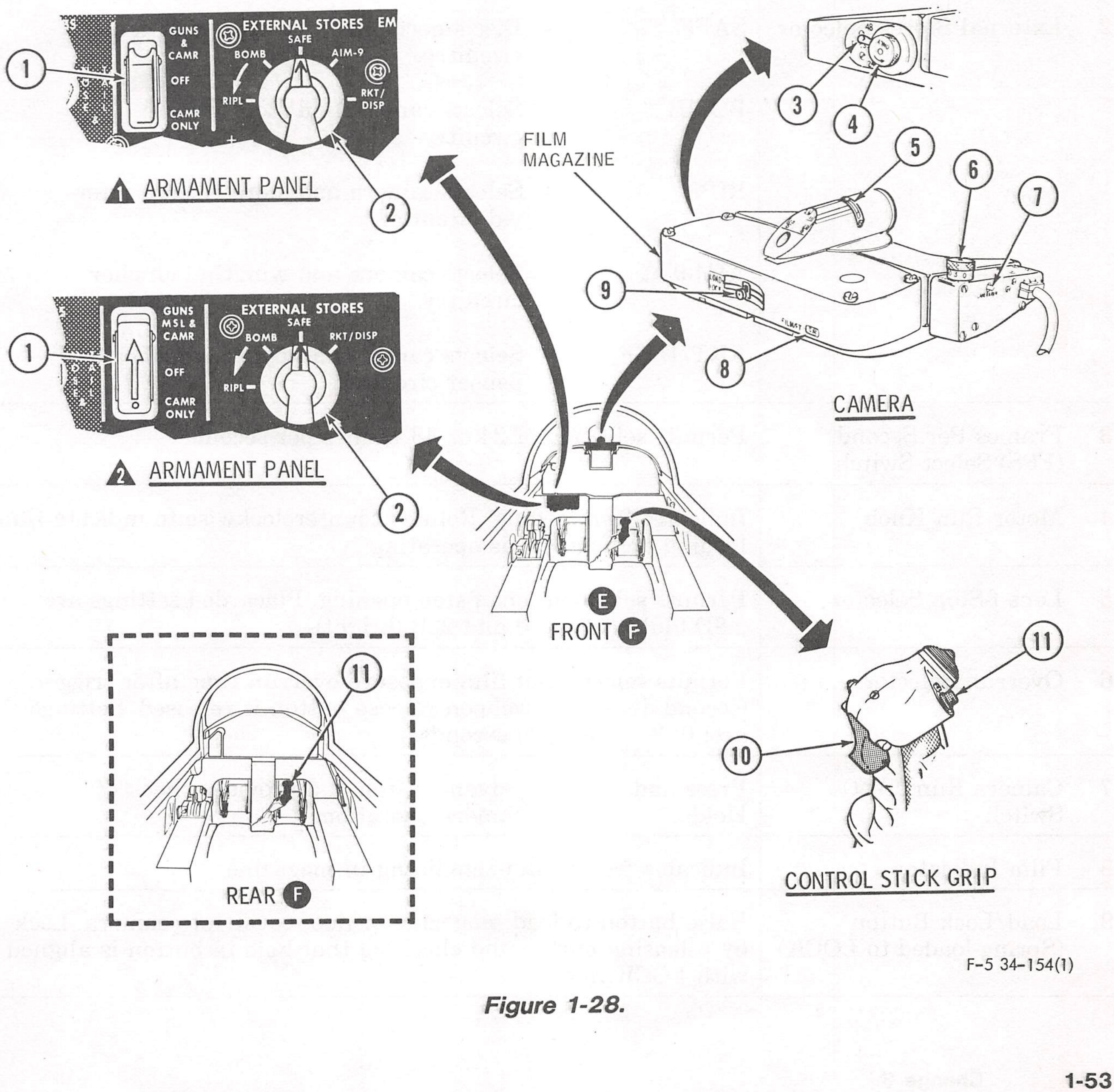
Figure 1-27.

F-5 34-26(1)A

SIGHT CAMERA

The KB-26A sight camera mounted on the sight provides photorecording of the sight picture and target during air-to-air and air-to-ground attacks. The camera can be operated with or without the delivery of weapons. The camera consists of a body, lens assembly with necessary prisms, and a removable 65-foot capacity 16mm film magazine. When the magazine is not installed on the camera, a dust cover must be inserted in its place. The body contains controls for selecting frames per second, lens aperture openings, and overrun times, and a switch for camera test. An event lamp in the body illuminates to provide the bright mark on the edge of the film to record the instant of weapon release or firing, and the dim mark for the selected overrun time. See figure 1-28 for location and function of camera and associated cockpit controls.

SIGHT CAMERA CONTROLS & INDICATOR



F-5 34-154(1)

Figure 1-28.

SIGHT CAMERA CONTROLS AND INDICATOR (Figure 1-28)

CONTROLS AND INDICATOR	FUNCTION	
1 Guns-Camera/Guns, Missile, and Camera Switch	OFF (Guard Closed)	— Disconnects electrical power to gun(s), and camera/gun(s), missile and camera.
	GUNS & CAMR ⚠1 GUNS MSL & CAMR ⚠2	— Selects gun(s), and camera/gun(s), missile and camera circuitry. If the overrun time is selected, the camera continues to run after the trigger (second detent) or ⚠2 weapon release button is released.
	CAMR ONLY	— Selects camera circuitry only. The preset overrun time is not available.
2 External Stores Selector	SAFE	— Disconnects electrical power to camera circuitry.
	BOMB	— Selects camera and store release circuitry.
	RIPL	— Selects camera and store release interval circuitry.
	AIM-9 ⚠1	— Selects camera and wingtip launcher circuitry.
	RKT/DISP	— Selects camera and pylon launcher or dispenser circuitry.
3 Frames Per Second (FPS) Select Switch	Permits selection of 24 or 48 frames per second.	
4 Motor Run Knob	Indicates film feeding. Rotates counterclockwise to indicate film feeding and camera is operating.	
5 Lens f-Stop Selector	Permits selection lens f-stop opening. Placarded settings are: 2.8D (dull), 5.6, 11.0 and 22B (bright).	
6 Overrun Selector	Permits selection of film exposure overrun time after trigger (second detent) or weapon release button is released. Settings are: 0, 3, 10, and 20 seconds.	
7 Camera Run (Test) Switch	Press and Hold	— Advances film and provides check of camera operation.
8 Film Indicator	Indicates feet of film remaining in magazine.	
9 Load/Lock Button (Spring-loaded to LOCK)	Raise button to load magazine or dust cover into camera. Lock by releasing button and checking that hole in button is aligned with LOCK line.	

SIGHT CAMERA CONTROLS AND INDICATOR (Figure 1-28) (Continued)

CONTROLS AND INDICATOR	FUNCTION
10 Trigger	With GUNS & CAMR/GUNS MSL & CAMR or CAMR ONLY selected: Out of Detent — Camera deactivated. First Detent — Runs camera. Releasing trigger stops camera. Second Detent — Runs camera. Releasing trigger stops camera after preset overrun time is completed. **NOTE** • The preset overrun time is not available when CAMR ONLY position is selected. • On aircraft equipped with auto flap system, and with auto flap thumb switch setting at AUTO, flaps freeze in attained position when the trigger is depressed to the second detent.
11 Weapon Release Button	With external stores selector at any position, except SAFE: Press — Runs camera. Releasing button stops camera after preset overrun time is completed.

CAMERA OPERATION

The camera can be operated on the ground only by use of the camera run test switch to advance film and check camera operation.

Trigger

With the ▲1 guns and camera switch at GUNS & CAMR, ▲2 guns, missile and camera switch at GUNS, MSL & CAMR, squeezing the trigger to first detent runs camera only and the camera stops when the trigger is released. Squeezing the trigger to second detent runs the camera and energizes the event lamp to record the bright mark on the film as long as the trigger is held. When the trigger is released, the camera continues to run, if overrun time selected, and the event lamp records the dim mark on film until the overrun time is completed.

Weapon Release Button

With external stores selector out of the SAFE detent, pressing the weapon release button runs the camera and energizes the event lamp to record a bright mark on the film. On ▲2 aircraft, with external stores selector at SAFE or if fire control system is in DG or DM mode, the guns, missile and camera switch must be at GUNS, MSL & CAMR or CAMR ONLY position for the camera to run.

FILM EXPOSURE TABLE

MISSION	LIGHTING CONDITION	FPS	F-STOP
Air-to-Air	Bright Sunlight	24	f 16
	Heavy Overcast	24	f 11
	Twilight	24	f 8
	Bright Sunlight	48	f 11
	Heavy Overcast	48	f 8
	Twilight	48	f 5.6
Air-to-Ground	Bright Sunlight	48	f 5.6
	Hazy	48	f 4.5
	Heavy Overcast	48	f 2.8
Exposure time (T) w/60 shutter: T = 1/150 at 24 FPS T = 1/300 at 48 FPS			

NOTE

- Camera has detents for each f-stop position between f-stops marked on the periscope as follows:

	Dull						Bright
F-stop markings	2.8		5.6		11		22
F-stop detent	2.8	4.5	5.6	8	11	16	22

- F-stop settings are for color film or black and white film with yellow filter.
- On multiple mission of air-to-air and air-to-ground and using black and white film, 48 FPS is recommended. The f-stop can be set between the f-stops appropriate to each phase of the mission. For example, in bright sunlight at 48 FPS, the air-to-air setting is f 11 and the air-to-ground setting is f 5.6. For the multiple mission, use f 8.

WEAPON RELEASE SYSTEM

The weapon release system consists of a normal release and firing system and a jettison release system. Weapons are force-ejected from pylons by electrically fired impulse cartridges. Pylons are jettisonable when explosive bolts and studs are installed.

NORMAL RELEASE AND FIRING SYSTEM

The normal release and firing system provides selective release of bombs singly, in pairs, sequentially (ripple), or salvo, and firing of gun(s) and AIM-9 missiles. Rockets are selectively fired singly, in pairs, or ripple fired by launcher-contained intervalometers. See figure 1-29 for location and function of weapon release controls.

WEAPON RELEASE CONTROLS

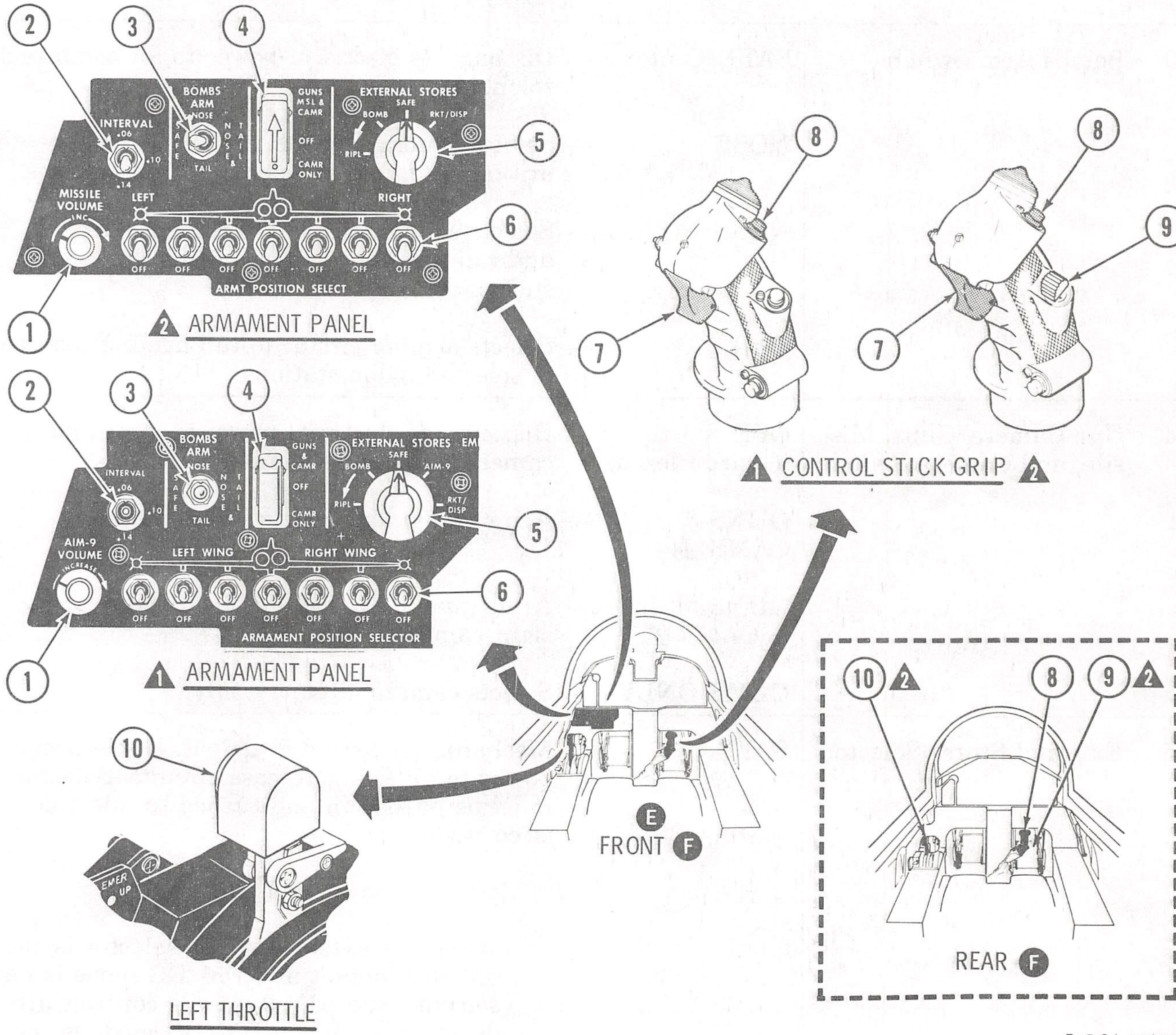


Figure 1-29.

WEAPON RELEASE CONTROLS (Figure 1-29)

CONTROLS		FUNCTION
ARMAMENT PANEL (1 thru 6)		
1 AIM-9 Missile Volume Knob	Rotate	— Adjusts volume of audio tone (low to high) in the pilot's headset from the desired missile.
2 Interval Switch	.06/.10/.14	— Electrically selects external stores release interval (in seconds) to the selected pylon stations when the external stores selector is in RIPL. Sequence of release is left outboard, right outboard, CL, left inboard, and right inboard.
3 Bombs Arm Switch	SAFE/Center	— Disconnects electrical power to all bomb rack solenoids.
	NOSE	— Selects arming circuits to the nose and center arming solenoids of selected pylon stations.
	NOSE & TAIL	— Selects arming circuits to the nose, center, and tail arming solenoids of selected pylon stations.
	TAIL	— Selects arming circuit to tail arming solenoid of selected pylon stations.
4 Gun-Camera/Guns, Missile, and Camera Switch	OFF (Guard Closed)	— Disconnects electrical power to guns and camera/guns, missile and camera.
	GUNS & CAMR ⚠1	— Arms gun(s) and selects sight camera.
	GUNS MSL & CAMR ⚠2	— Arms gun(s), wingtip missiles, and selects sight camera.
	CAMR ONLY	— Selects camera circuitry only.
5 External Stores Selector	SAFE	— Mechanically locked in detent. Disconnects power to all firing/release circuits. Selector must be pushed in and turned to select desired position. **NOTE ⚠2** When the external stores selector is out of SAFE detent and DM/DG mode is not selected, the AIM-9 missile controls are deactivated. When DM/DG mode is selected, the external stores selector is deactivated.

WEAPON RELEASE CONTROLS (Figure 1-29) (Continued)

CONTROLS	FUNCTION	
5 External Stores Selector (Continued)	BOMB	— Connects electrical power to stores release circuitry of selected pylon stations, and selects camera circuitry. (External tanks are released by means of the select jettison system.)
	RIPL	— Connects electrical power to stores release interval circuitry of selected pylon stations, and selects camera circuitry.
	AIM-9 (Some Aircraft)	— Arms wingtip missiles and selects camera circuitry.
	RKT/DISP	— Connects electrical power to selected pylon launcher or dispenser, and selects camera circuitry.
6 Armament Position Selector Switches (7)	OFF	— Disconnects electrical power to release/firing circuits of corresponding pylon and wingtip launcher.
	Up	— Connects electrical power to release/firing circuits of corresponding pylon and wingtip launcher. On modified aircraft [T.O. 1F-5-873] the wingtip switch turns the audio tone on or off for the corresponding wingtip missile. With both switches up, only the tone from the left missile is heard. **NOTE** On unmodified aircraft, the missile audio tone cannot be manually turned off.
7 Trigger	Out of Detent	— Gun(s) and camera circuits deenergized.
	First Dentent	— With GUNS & CAMR/GUNS MSL & CAMR selected, runs camera and opens the gun gas purge and deflector doors. Runs camera if CAMR ONLY is selected.

WEAPON RELEASE CONTROLS (Figure 1-29) (Continued)

CONTROLS	FUNCTION	
7 Trigger (Continued)	Second Detent	— Fires gun(s) if selected/runs camera if selected. **NOTE** • (F) Trigger inoperative in rear cockpit. • On aircraft equipped with auto flap system, and with flap thumb switch positioned at AUTO, the flaps freeze in attained position when the trigger is depressed to the second detent.
8 Weapon Release Button	Press	— Activates the firing or release circuits of the selected pylon and wingtip stations, and runs camera. **NOTE** Select jettison switch must be at OFF for normal pylon release/firing circuits to function.
9 (2) Dogfight/Resume Search Switch (Spring-loaded to Center)	Center-Press (Momentary)	— Releases dogfight modes (if actuated), and reactivates normal release circuitry.
	Aft (Momentary)	— Selects DG mode, and overrides all nor mal release circuitry except guns and AIM-9 missile.
	Forward (Momentary)	— Selects DM mode, and overrides all normal release circuitry except guns and AIM-9 missile.
10 Missile Uncage Switch (Spring-loaded Off)	Press and Hold	— Uncages selected AIM-9 missile seeker head, after missile is armed, to allow off-boresight tracking of target out to seeker head gimbal limits. Switch must be held pressed to retain uncaged condition. After switch release, the seeker head cages to the missile boresight line.

NOTE

- Weapon firing and release circuits are deactivated when the weight of the aircraft is on the left main gear. Circuits can be activated on the ground when the armament safety switch linkage is disconnected and the switch arm rotated down.
- Normal bomb release, arming, rocket firing, and missile firing circuits do not function if the select jettison switch is not in the OFF position.

External Stores Selector, BOMB

Selecting BOMB on the external stores selector directs firing impulses to selected pylon stations or to the SUU-20 dispenser bomb circuitry when the weapon release button is pressed. Simultaneous release of two weapons should be from symmetrical stations. When all wing pylon and centerline stations are selected and the weapon release button is pressed, the outboard and centerline weapons are released simultaneously, followed by release of the inboard weapons 150 milliseconds later. If only wing pylon stations are selected, the outboard weapons are released first followed by the inboard weapons 150 milliseconds later.

External Stores Selector, RIPL

Selecting RIPL on the external stores selector causes a sequential release of weapons from selected stations when the weapon release button is pressed. The release interval is controlled by the three-position interval switch. The release sequence is left outboard, right outboard, centerline, left inboard, and right inboard. The release interval is not affected by intervening empty or nonselected stations.

External Stores Selector, AIM-9 ⚠1

Selecting AIM-9 on the external stores selector arms the missiles and connects circuitry to the sight camera. With the left or right wingtip armament position selector switch up, pressing the weapon release button fires the respective AIM-9 missile and operates the sight camera. If both stations are selected, the left missile is fired first. Pressing the weapon release button a second time fires the right missile.

External Stores Selector, RKT/DISP

Selecting RKT/DISP on the external stores selector, with the appropriate stations selected, and pressing the weapon release button releases flares and fires rockets from launchers and dispensers.

Gun, Missile, and Camera Switch ⚠2

Selecting GUNS, MSL & CAMR position arms the gun(s) and AIM-9 missiles, and connects circuitry to the sight camera. Squeezing trigger to the second detent fires the guns and operates the camera. Pressing the weapon release button when the wingtip armament position selector switch is in the up position fires the AIM-9 missile and operates the camera. If both wingtip stations are selected, the left missile is fired first. Pressing the weapon release button a second time fires the right missile.

AIM-9 Missile Audio Tone

On modified aircraft [T.O. 1F-5-873] the audio tone of either missile is activated or shut off by the corresponding wingtip armament position selector switch without arming the missile. On unmodified aircraft the left missile tone is audible without requiring any weapon control selections. Tone from the right missile is audible only after the missile is armed and when the right wingtip switch is up. On modified and unmodified aircraft, with both wingtip switches up, only the tone from left missile is audible.

AIM-9 Firing Circuitry Transfer

The missile firing circuit (and audio tone) automatically transfers to the right missile after the left missile is launched. When using captive missiles, the firing circuit may be recycled back to the left captive missile after simulated launch by positioning ⚠1 external stores mode selector to SAFE, then back to AIM-9; ⚠2 guns

missile and camera switch to OFF, then back to GUNS MSL & CAMR. When only a left captive missile is carried and after simulated launch another launch is desired, the left wingtip switch may be cycled to OFF, then up to regain the firing circuit.

Dogfight/Resume Search Switch ⚠2

When a dogfight mode has been selected, the normal weapons release circuitry to the pylon stations are deactivated. The guns and AIM-9 missile firing circuits remain operative. To reactivate the pylons weapons release circuitry, momentarily press the dogfight/resume search switch.

JETTISON RELEASE SYSTEM

Jettison of weapons and pylons can be accomplished on the ground or in flight with the gear up or down. See figure 1-30 for location and function of jettison controls.

Emergency All Jettison Button

Pushing the emergency all jettison button (either cockpit Ⓕ) jettisons all pylon weapons/stores in safe condition. Outboard weapons are jettisoned first, followed by the centerline weapon 200 milliseconds later, and the inboard weapons 300 milliseconds after the centerline weapon. When inboard tanks are carried and contain fuel, the jettison interval is 800 milliseconds. Empty inboard tanks are jettisoned 300 milliseconds after centerline jettison.

External Stores Jettison T-Handle ⚠1

Pulling the external stores jettison T-handle jettisons all pylon weapons in safe condition in the sequence and interval noted for the emergency all jettison system.

Select Jettison Switch, SELECT POSITION

The select jettison system provides for a single store jettison or simultaneous jettison of two stores from a right and left wing pylon station or wingtip. The centerline armament position selector switch must be at OFF to jettison any wing or wingtip station. To select jettison, place the select jettison switch at SELECT POSITION, place the armament position selector switch at the up (on) position for the station(s) to be jettisoned and push the select jettison pushbutton. When the station selected has been jettisoned, the armament position selector switch must be placed at OFF before another station can be jettisoned. Jettison release priority is centerline, inboard, outboard and tip stations. Stores are jettisoned in the safe condition and AIM-9 missiles are fired in an unguided (safe) condition.

NOTE

> Select jettison switch must be at OFF for normal release/firing circuits to function.

Select Jettison Switch, ALL PYLONS

Selecting ALL PYLONS and pushing the select jettison button causes explosive bolts (if installed) to shear, allowing the pylons to separate from the aircraft. A time delay of 1 second elapses before all pylons are salvo jettisoned. If pylons are loaded with stores, the stores sequentially jettison within the time-delay period before the pylons are jettisoned.

JETTISON SYSTEM

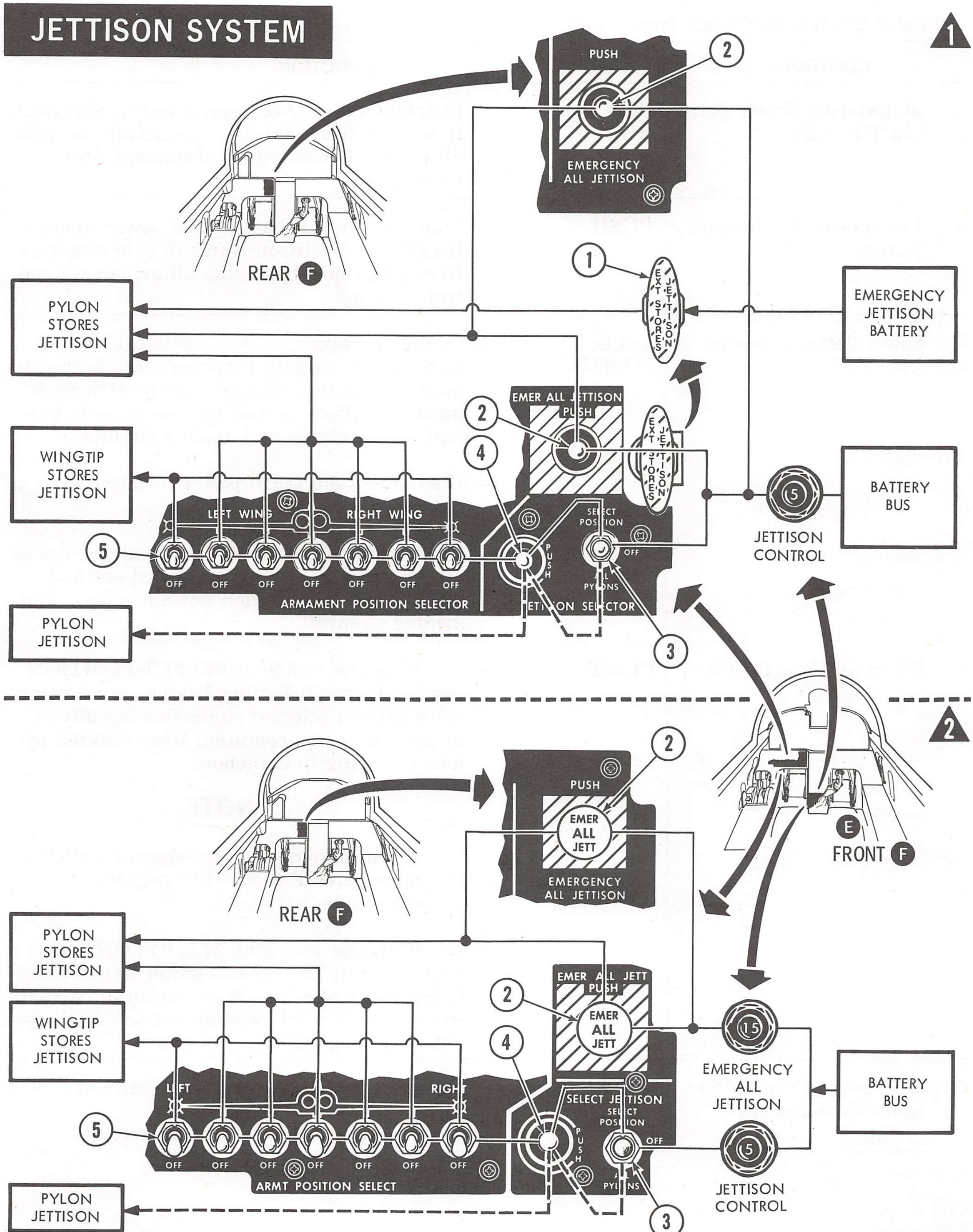


Figure 1-30.

JETTISON SYSTEM CONTROLS (Figure 1-30)

	CONTROLS	FUNCTION	
1	⚠ External Stores Jettison T-Handle	Pull	— Connects thermal battery power to electrically salvo-jettison stores in safe condition from all pylons, bypassing all armament control selections.
2	Emergency All Jettison Button	PUSH	— Connects aircraft battery bus power to electrically salvo-jettison stores in safe condition from all pylons, bypassing all armament control selections.
3	Select Jettison Switch	SELECT POSITION	— Completes stores jettison electrical circuits to pylons or wingtip launchers selected by armament position selector switch(es). Switch must be pulled out and up. Disconnects normal pylon release and arming circuits.
		OFF	— Disconnects electrical power to select jettison circuits.
		ALL PYLONS	— Completes pylon jettison electrical circuits to all pylons. Switch must be pulled out and down. Disconnects pylon normal release and arming circuits.
4	Select Jettison Button	PUSH	— a. With the switch at SELECT POSITION, connects aircraft battery bus power to electrically jettison selected stores individually or in pairs in a safe condition from selected pylons and wingtip launchers. **NOTE** All armament position selector switches must be OFF except the switch of the store to be jettisoned. — b. With the switch at ALL PYLONS, connects aircraft battery bus power to electrically jettison stores in safe condition (if carried) from all pylons followed by jettison of all pylons (if jettisonable).
5	Armament Position Selector Switches (7)	OFF	— Opens respective select jettison circuits.
		Up	— Closes respective select jettison circuits.

ARMAMENT CIRCUIT BREAKERS

Armament circuit protection provided by circuit breakers is shown in figure 1-31. Resetting of circuit breakers is safe, provided circuit breaker operation and the individual circuit involved are understood. A cooling period is required before the breaker can be reset.

NOTE

Using circuit breakers as switches should be avoided.

ARMAMENT CIRCUIT BREAKERS

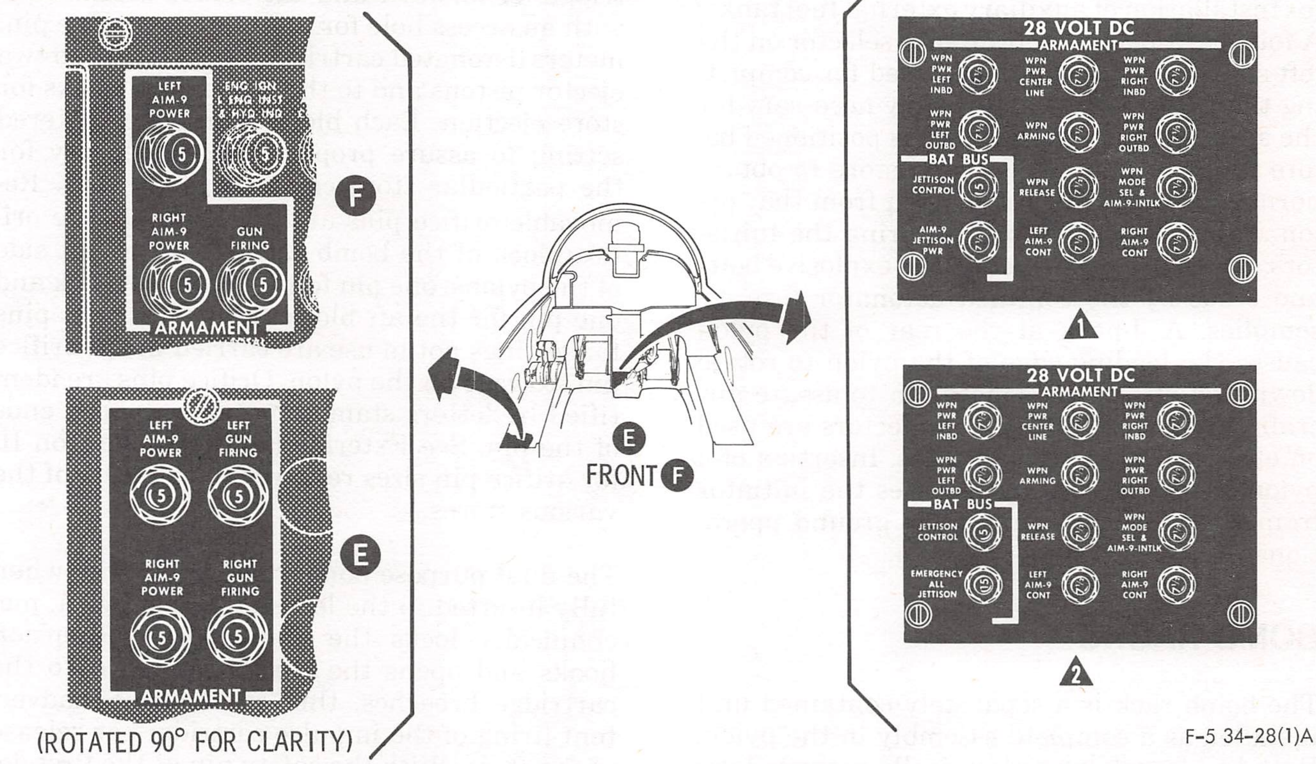


Figure 1-31.

WEAPON SUSPENSION SYSTEMS

PYLONS

Pylons are jettisonable when initiators, confined detonator fuze assemblies, and explosive bolts/studs are installed. All pylon structures (figure 1-32) contain a bomb rack assembly and the necessary electrical wiring for carrying various types of launchers and weapons. The centerline and inboard pylons contain the necessary plumbing, fittings and electrical wiring for installation of auxiliary external fuel tanks. A four-position rotary ordnance selector on the left side of each pylon is provided for completing the pylon electrical circuitry necessary for the store carried. The selector is positioned before flight to match the pylon store to obtain normal release/firing of weapon from that pylon. Pylons are jettisoned by firing the initiators, which are connected to the explosive bolts and studs by the confined detonator fuze assemblies. A J-hook at the rear of the pylon causes the leading edge of the pylon to rotate down and aft during separation to assure aircraft clearance. Pullaway connectors are used on electrical, fuel, and air lines. Insertion of a pylon jettison safety pin isolates the initiator from the electrical circuit for ground operations.

BOMB RACKS

The bomb rack is a separately contained unit installed as a complete assembly in the pylon. Each bomb rack is an electrically activated gas ejector type, consisting of a dual cartridge breech, suspension hooks, two gas orifice blocks, two gas-operated ejector pistons, a gas-operated slave piston, four adjustable swaybraces and pads, hooks manual release, three arming solenoids, and ground safety pin.

The four underwing pylon bomb racks (MAU-50/A) have 14-inch spaced suspension hooks. The centerline pylon bomb rack (MAU-40/A) has 14-inch and 30-inch spaced suspension hooks. The impulse cartridges are electrically fired when the pilot activates the firing circuits. The dual cartridge breech is designed to assure dual-cartridge firing. In case one cartridge fails to fire, the expanding gases from the fired cartridge fires the unfired cartridge. A forward and aft orifice block, each with an access hole for inserting an orifice pin, meters detonated cartridge gas pressure to two ejector pistons and to the suspension hooks for store ejection. Each block requires a metered setting to assure proper ejection velocity for the particular store carried on the rack. Removable orifice pins are inserted into the orifice block of the bomb rack from the left side of the pylons: one pin for the forward block and one pin for the aft block. Two additional pins for settings not in use are carried in the orifice pin stowage on the pylon. Orifice pins are identified by letters stamped on one or both ends of the pin. See Exterior Inspection, section II, for orifice pin sizes required for ejection of the various stores.

The dual purpose bomb rack safety pin, when fully inserted in the left side of the pylon, mechanically locks the bomb rack suspension hooks and opens the electrical circuit to the cartridge breeches, thus preventing inadvertent firing of the impulse cartridges or release of the store. With the safety pin at the first detent (not fully inserted), the electrical circuit to the cartridge breeches is closed, but the suspension hooks remain mechanically locked. Three arming solenoids at the front, center, and rear of the bomb rack provide for nose, tail, or nose and tail arming of bomb fuzes.

PYLONS

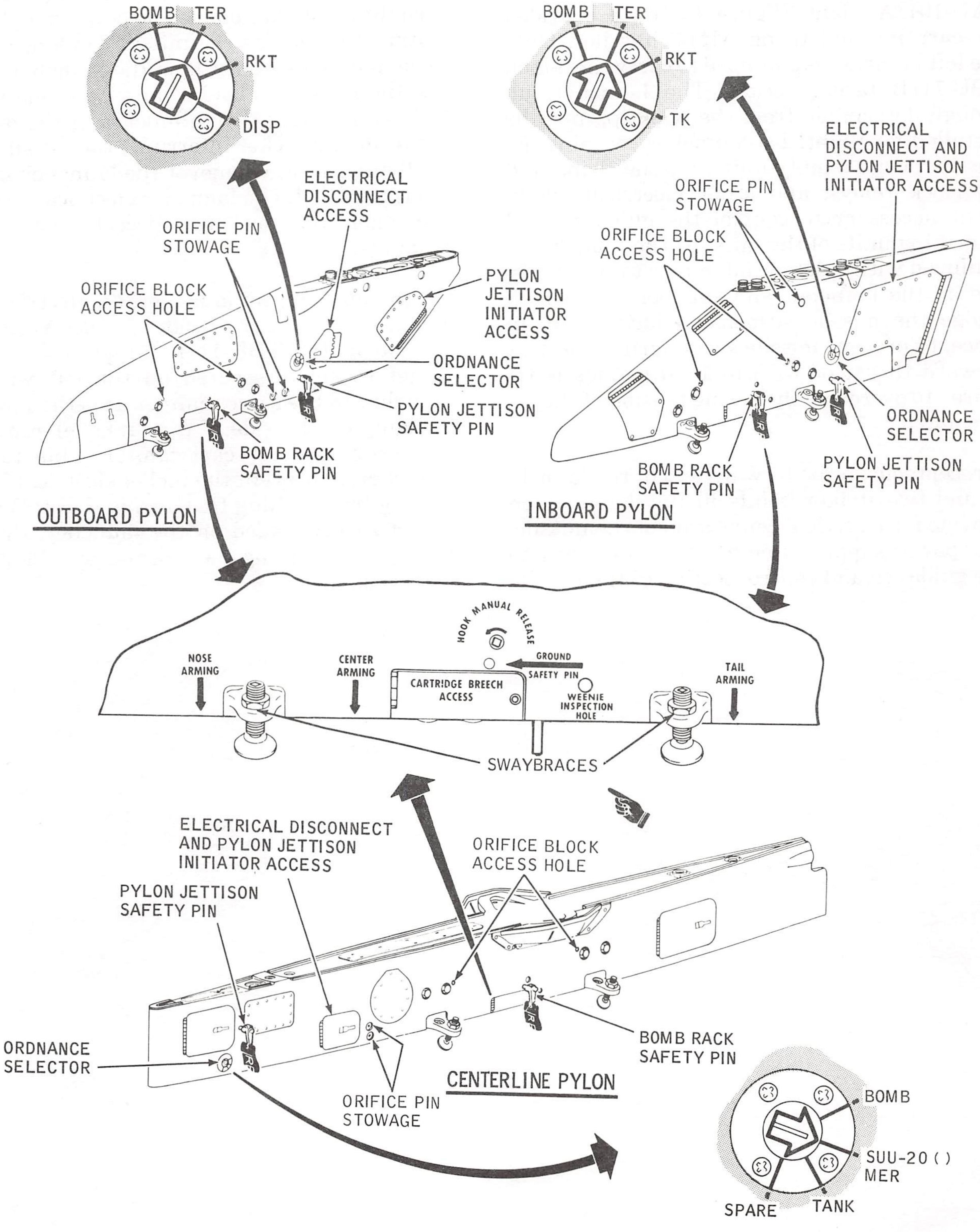


Figure 1-32.

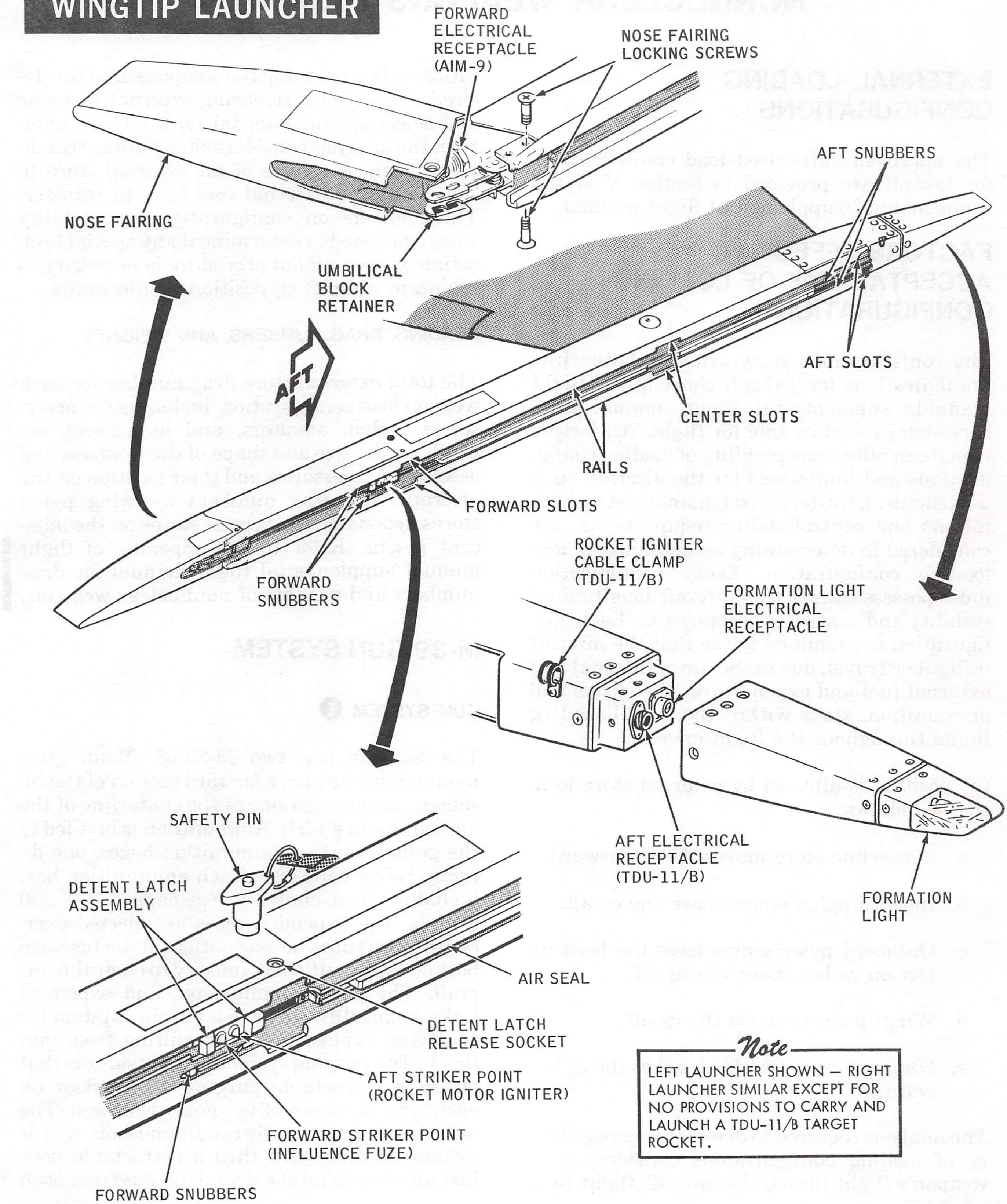
WINGTIP LAUNCHERS

Two wingtip launchers (LAU-100/A, left, and LAU-101/A, right) (figure 1-33) are provided for carrying and firing AIM-9 missiles. Only the left launcher is equipped to carry the 5-inch TDU-11/B target rocket. The launcher, although detachable from the wingtip, must be installed for flight. The launcher contains the missile power supply units, missile firing and interlock relays, and other electrical equipment necessary to control the guidance and launching units of the missile. The launcher is equipped with a detent latch to retain the missile on the launcher and snubber bars which wedge the missile suspension lugs firmly in place, to prevent missile sway during flight. A forward thrust of 1500 to 1800 pounds is required to overcome the spring tension of the detent latch.

A receptacle on the forward end of the launcher and two striker points in the detent latch provide for electrical connection of the missile. The power supply assembly supplies power to the guidance and control section of the missile thru the forward electrical receptacle, to the missile influence fuze thru the forward contact point, and to the missile rocket motor igniter thru the aft striker point. The power supply circuitry also permits the missile guidance head to be uncaged while still on the launcher to allow the missile to lead a target and maintain lock-on. A safety switch inboard of the detent latch release socket interrupts the missile motor firing circuit whenever the launcher safety pin is installed. The launcher electrical circuits are energized by the aircraft armament circuitry.

On the left wingtip launcher, an electrical receptacle on the rear provides for electrical connection of the TDU-11/B target rocket. The target rocket is secured on the left wingtip launcher in the same manner as is the missile. A clamp on the side of the launcher provides for securing the rocket igniter cable to the launcher, to prevent the rocket electrical igniter plug from pulling free during flight. With a target rocket loaded on the launcher, the aft fairing containing a formation light is removed.

WINGTIP LAUNCHER



Note

LEFT LAUNCHER SHOWN — RIGHT LAUNCHER SIMILAR EXCEPT FOR NO PROVISIONS TO CARRY AND LAUNCH A TDU-11/B TARGET ROCKET.

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Figure 1-33.

NONNUCLEAR WEAPONS (COMBAT)

EXTERNAL LOADING CONFIGURATIONS

The approved authorized load configurations for takeoff are provided in section V of the flight manual/supplemental flight manual.

FACTORS AFFECTING ACCEPTABILITY OF LOADING CONFIGURATION

The configurations shown in the Authorized Configurations for Takeoff chart in the flight manual/ supplemental flight manual have been determined as safe for flight. All factors which can affect acceptability of loading configurations and limitations for the aircraft, such as structural, flutter, aerodynamic and cg limitations and controllability requirements, are considered in determining acceptability of any loading configuration. Every configuration must possess satisfactory aircraft longitudinal stability and control characteristics. Each configuration is examined to see that the aircraft inflight cg travel, due to the use of internal and external fuel and expenditure of weapons and ammunition, stays within the established cg limits throughout the flight envelope.

CG position is affected by external store location as follows:

a. Centerline store moves the cg forward.

b. Inboard pylon stores move the cg aft.

c. Outboard pylon stores have the least effect on cg but move the cg aft.

d. Wingtip stores move the cg aft.

e. 20mm ammunition load moves the cg forward.

The analysis required to determine acceptability of loading configurations considers each weapon's flight limits, the aircraft flight limitations when carrying the weapons, and the desired sequence for releasing external weapons and selecting the external tank fuel. In addition, the analysis considers single failure conditions, such as failure of an external store to release or the external fuel tank to transfer. These effects on configuration acceptability were examined to determine if any special limitation or operational procedure is necessary to maintain aircraft cg position within limits.

LOADING, DRAG NUMBERS, AND WEIGHTS

The total external store drag number for each weapon load configuration, including the accessories (pylon, adapters, and launchers), depends on the size and shape of the weapons and associated accessories and their location on the aircraft. The drag numbers for wing pylon stores depend on the type of stores on the adjacent pylons. Refer to the appendix of flight manual/supplemental flight manual for drag numbers and weights of nonnuclear weapons.

M-39 GUN SYSTEM

GUN SYSTEM (E)

The aircraft has two M-39A3 20mm guns mounted in the upper forward section of the fuselage, one on each side of the centerline of the aircraft (figure 1-34). Ammunition is belt-fed to the guns from two ammunition boxes, one directly below each gun. Each ammunition box, including feed chute, has a capacity of 280 rounds. The expended cases are ejected overboard (thru tubes having outlets in the fuselage bottom) with sufficient velocity to clear the aircraft. The guns, ammunition, and expended links compartments have a purging system for removing explosive gases resulting from gun firing. The purging system uses outside air that enters a retractable purging intake door on each side, outboard of the nosewheel well. The outside air mixes with conditioned air and is exhausted overboard thru a retractable door just aft of each intake door. Gun gas from each

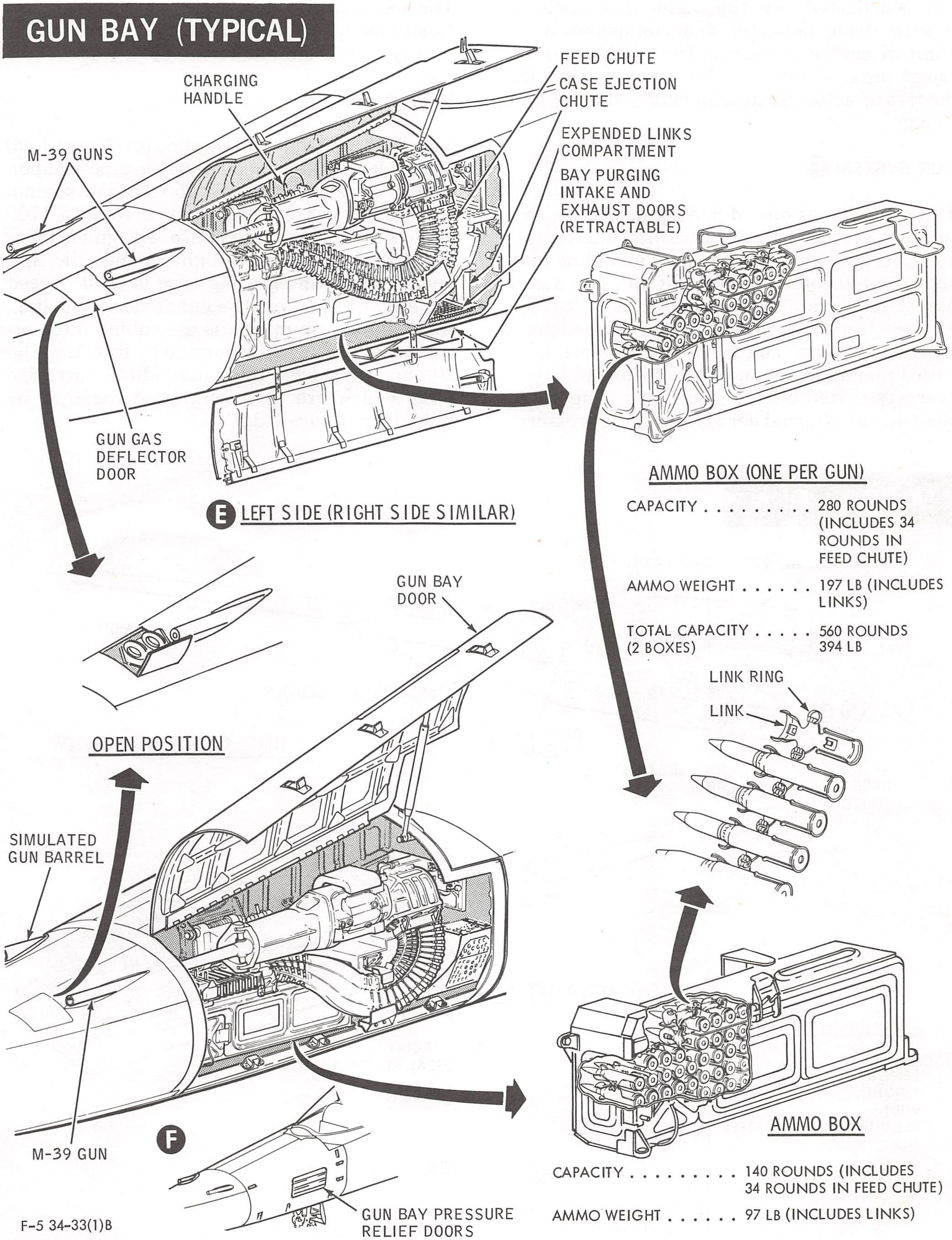

GUN BAY (TYPICAL)
CHARGING HANDLE
M-39 GUNS
FEED CHUTE
CASE EJECTION CHUTE
EXPENDED LINKS COMPARTMENT
BAY PURGING INTAKE AND EXHAUST DOORS (RETRACTABLE)
GUN GAS DEFLECTOR DOOR
E LEFT SIDE (RIGHT SIDE SIMILAR)
AMMO BOX (ONE PER GUN)
CAPACITY . . . . 280 ROUNDS (INCLUDES 34 ROUNDS IN FEED CHUTE)
AMMO WEIGHT . . . . . . 197 LB (INCLUDES LINKS)
TOTAL CAPACITY . . . . . 560 ROUNDS
(2 BOXES) 394 LB
GUN BAY DOOR
OPEN POSITION
LINK RING
LINK
SIMULATED GUN BARREL
M-39 GUN
F
GUN BAY PRESSURE RELIEF DOORS
AMMO BOX
CAPACITY . . . . 140 ROUNDS (INCLUDES 34 ROUNDS IN FEED CHUTE)
AMMO WEIGHT . . . . . . 97 LB (INCLUDES LINKS)
F-5 34-33(1)B

Figure 1-34.

gun is deflected from the engine inlet ducts by a retractable deflector door immediately in front of each gun barrel. The intake and exhaust purge doors and the gun gas deflector doors are actuated automatically during gun firing.

GUN SYSTEM Ⓕ

The aircraft has one M-39A3 gun in nose section on left side of aircraft centerline (figure 1-34). Ammunition box capacity including feed chute is 140 rounds. The right simulated gun barrel allows ram air to enter the avionics bay. The gun bay door contains three louvered pressure relief doors. The louvered doors are held closed magnetically and open if the gun bay is overpressurized during gun firing. The doors close due to external aerodynamic air pressure.

The gas purging and deflector doors system functions the same as in the Ⓔ. The rest of the gun system is similar to the Ⓔ.

M-39A3 GUN

The M-39A3 20mm automatic gun (figure 1-35) is an electrically fired, revolver-type weapon with a muzzle velocity of 3250 feet per second. The gun is gas-operated with a 1500 to 1700 rounds per minute rate of fire. The gun is manually charged prior to flight. A metallic link belt of the disintegrating type is used to feed the ammunition into the gun. Prior to loading, the 20mm ammunition is assembled into cartridge belts. The belt is formed by inserting the 20mm cartridges into individual cartridge links which are then connected together by link rings (figure 1-34).

M-39A3 GUN

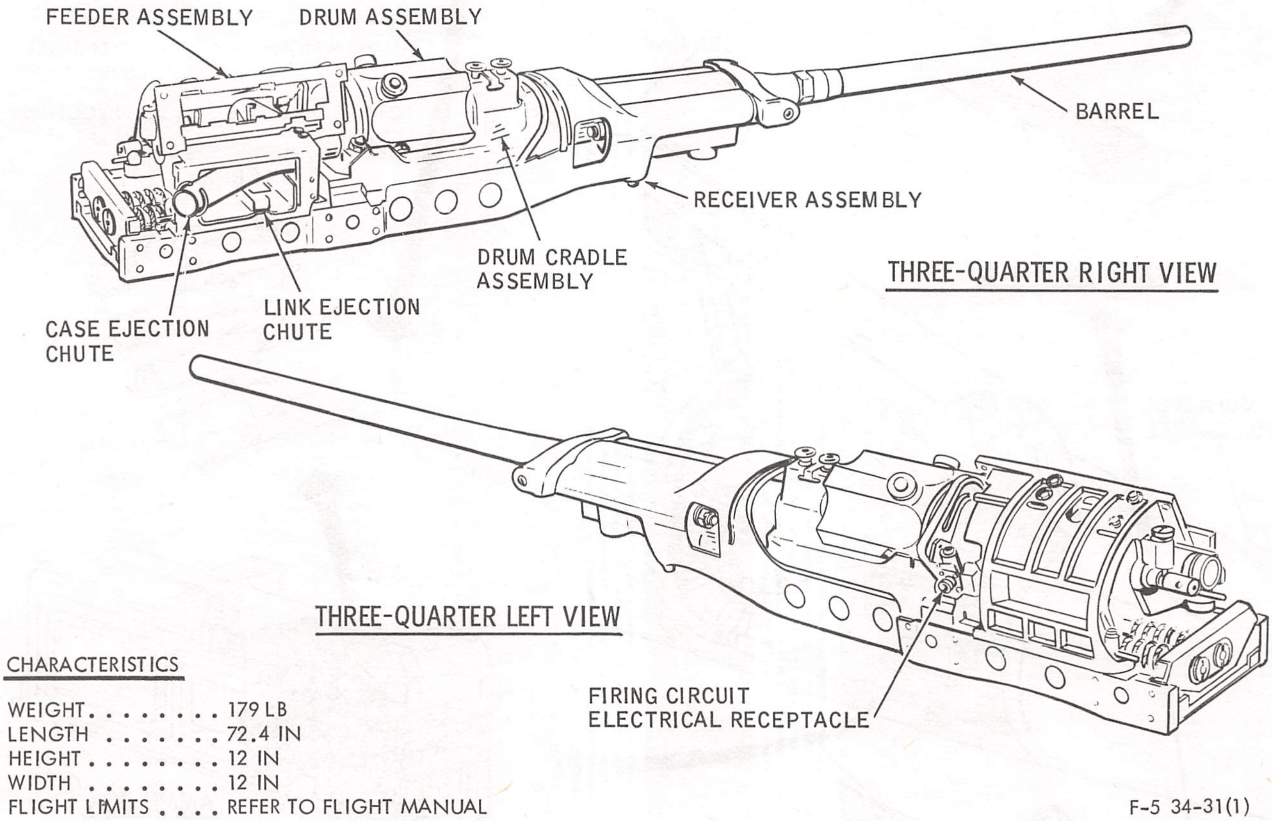


Figure 1-35.

NOTE

To improve gun effectiveness and reduce gun malfunctions, gun firing should be limited to a firing burst of no more than 3 seconds duration (approximately 75 rounds), with a 1-minute cooling period between bursts.

AMMUNITION, 20-MILLIMETER

All 20mm ammunition for the M-39 gun is issued in the form of complete rounds of fixed ammunition. A complete round, also called a cartridge, consists of a cartridge case, a projectile (bullet), propellant powder, and an electric primer (figure 1-36). All 20mm cartridges have a rotating band at the rear of the projectile, to effect projectile rotation (stabilizing it in flight) and to prevent the escape of gases past the projectile.

The firing of the projectile is initiated when the firing pin ignites the primer by means of an electrical impulse. The resulting flame passes thru a vent leading to the propellant chamber and ignites the propelling charge. The expansion of the resulting gases forces the projectile out thru the bore of the weapon. Ammunition for the M-39 gun is further classified according to the type projectile used. There are presently five types of cartridges available: Ball (TP), Ball-Tracer (TP-T), Armor-Piercing-Incendiary (API), High-Explosive-Incendiary (HEI), and High-Explosive-Incendiary-Tracer (HEI-T).

Cartridge, 20mm Ball, M55A1 and M55A2

This cartridge is for use in practice firing. The projectile consists of a body, nose, and rotating band. The body is made of steel, is hollow, and contains no filler.

Cartridge, 20mm, Armor-Piercing Incendiary, M53

This cartridge is used against armored targets, functioning with a combined incendiary and penetration effect. The body of the projectile is solid shot made from bar alloy steel. The nose, which is made of aluminum alloy, is charged with three separately pressed increments of incendiary composition weighing a total of 80 grains. The nose is sealed with a closure disc. This cartridge does not require a fuze, since initiation of the incendiary composition is caused by the crushing force and heat generated upon impact. The cartridge case is made of brass and contains an electric primer.

Cartridge, 20mm, High-Explosive-Incendiary, M56 With Fuze

This cartridge is designed for use against aircraft and light material targets. The projectile body is a steel, relatively thinwalled casting. The weight of the composite explosive-incendiary charge is approximately 0.024 pound.

Upon impact, the charge functions with a combined detonation and incendiary effect. Functioning is initiated by an instantaneous impact type fuze.

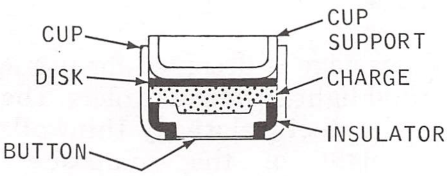
M505 Fuze

HEI projectiles require a fuze to complete the explosive train. The M505A2 fuze is used with the M56A2 cartridge, or the M505A3 fuze (figure 1-37) is used with the M56A3 cartridge. These fuzes do not function unless the detonator is in line with the firing pin. The fuze is boresafe (detonator safe). The explosive train is interrupted while the projectile is still in the bore of the weapon. Premature action of the bursting charge is prevented if any of the more sensitive elements (primer or detonator) function. The fuze has a delayed arming distance of 20 to 35 feet from the muzzle of the gun. The rotor containing the detonator (which is out of line with the firing pin) and the firing pin are locked in position by a rotor safety spring. Centrifugal force created by the projectile spin allows the explosive train components to align. The fuze functions after impact, when the projectile has crushed the nose of the fuze and forced the firing pin against the detonator. The booster, initiated by the detonator, causes the projectile to explode.

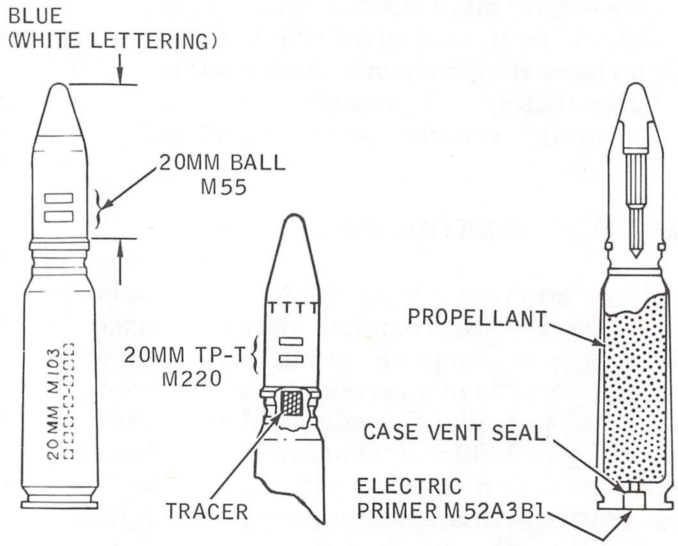
20-MILLIMETER AMMUNITION

M55 TP (BALL)/M220 TP-T (TRACER)

WEIGHT, COMPLETE ROUND	0.56 POUND
WEIGHT, PROJECTILE	0.22 POUND
LENGTH, COMPLETE ROUND	6.62 INCHES
LENGTH, CARTRIDGE CASE	4.02 INCHES
LENGTH, PROJECTILE	2.98 INCHES
DIAMETER, PROJECTILE	0.79 INCH

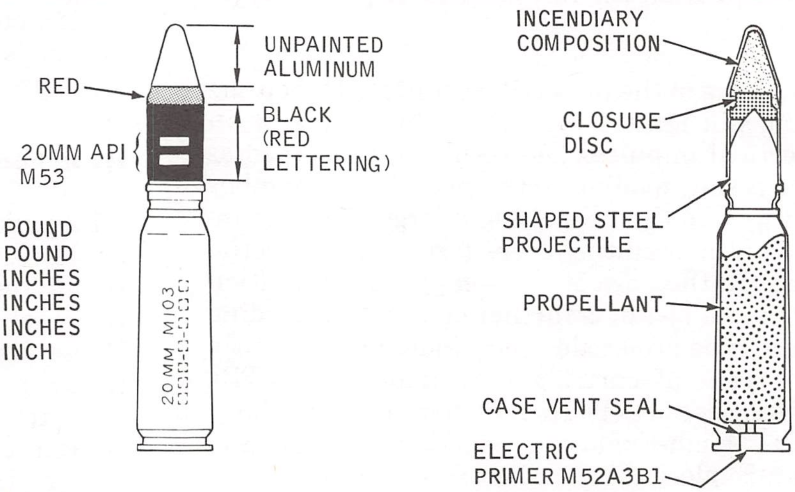


ELECTRIC PRIMER M52A3B1
(ENLARGED)
(TYPICAL ALL THREE ROUNDS)



M53 API

WEIGHT, COMPLETE ROUND	0.57 POUND
WEIGHT, PROJECTILE	0.22 POUND
LENGTH, COMPLETE ROUND	6.62 INCHES
LENGTH, CARTRIDGE CASE	4.02 INCHES
LENGTH, PROJECTILE	2.98 INCHES
DIAMETER, PROJECTILE	0.79 INCH



M56 HEI/XM242 HEI-T (TRACER)

WEIGHT, COMPLETE ROUND	0.56 POUND
WEIGHT, PROJECTILE	0.22 POUND
LENGTH, COMPLETE ROUND	6.62 INCHES
LENGTH, CARTRIDGE CASE	4.02 INCHES
LENGTH, PROJECTILE	3.03 INCHES
DIAMETER, PROJECTILE	0.79 INCH

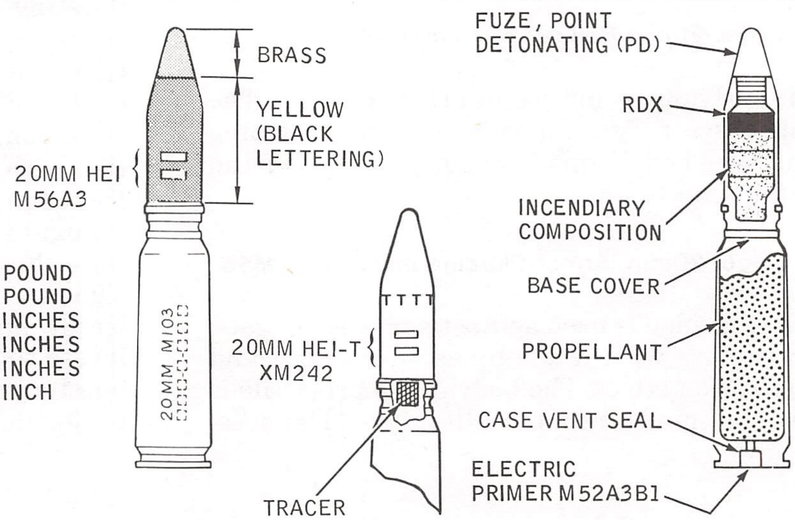


Figure 1-36.

F-5E 34-32 A

M505 SERIES FUZES

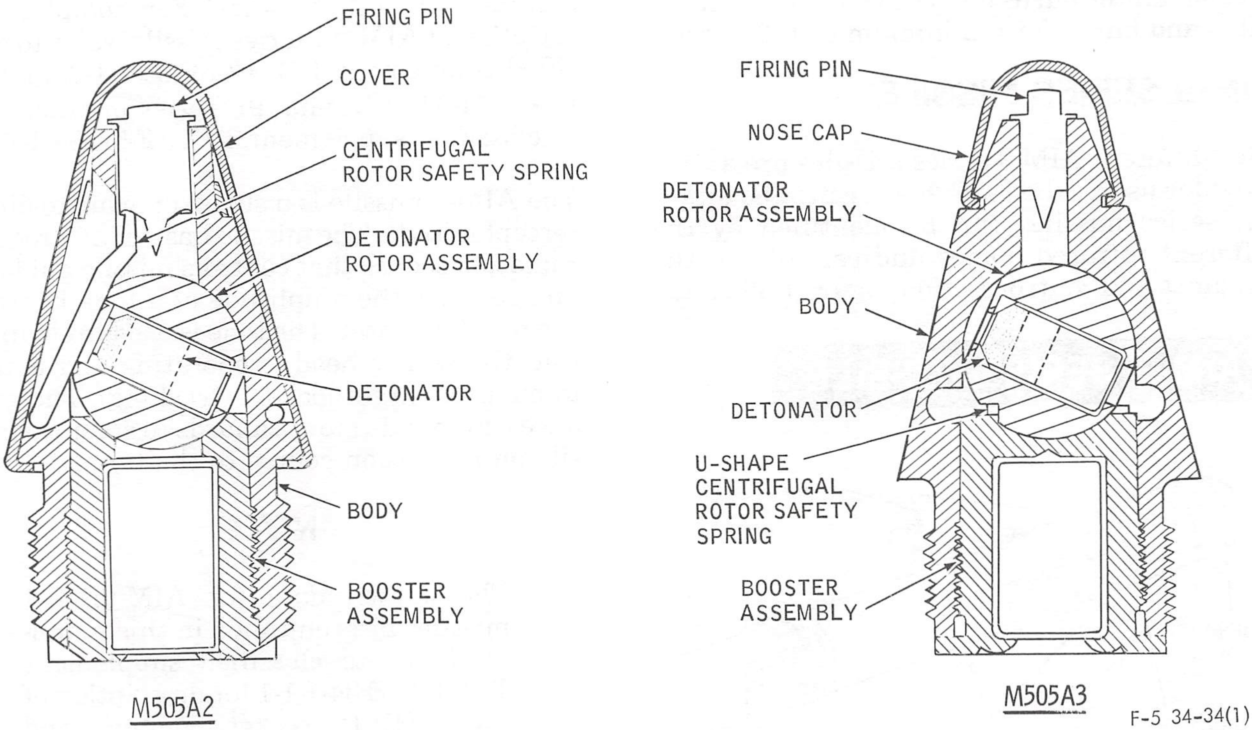


Figure 1-37.

WARNING

A fragmentation cloud exists when the HEI projectile detonates. The fragmentation cloud contains projectile particles of sufficient size and weight to produce engine foreign object damage (FOD) if ingested, as well as aircraft/windshield damage. The maximum altitude of the fragments is 300 feet. The probability of FOD increases rapidly at recovery altitudes lower than 300 feet AGL. Slant ranges sufficient to permit flyover of the fragmentation cloud above 300 feet AGL are mandatory.

Cartridge, 20mm, Target Practice-Tracer, M220, and Cartridge, 20mm, High Explosive-Incendiary-Tracer, XM242

These cartridges are identical to M55 and M56 cartridges with the addition of a tracer element and two igniters in the base of the projectile. The cartridges are identified by a band of red T's around the projectile body (figure 1-36). The tracer and igniter components are enclosed in a tracer cavity by a metering disc and an aluminum seal, which preclude the ignition of the tracer element while the projectile is still in the gun barrel. When the cartridge is fired, the burning propellant gases burn through the aluminum seal as the projectile travels thru the barrel of the gun. As the projectile exits from the muzzle of the gun, the first igniter charge ignites and burns for approximately 15 yards.

The second igniter charge ignites from the first igniter charge and burns until the projectile has traveled 75 yards from the muzzle. As the second igniter burns out, the tracer element ignites and burns for a minimum of 1500 yards.

AIM-9 SERIES MISSILE

Five different AIM-9 series missiles are authorized for use on the F-5E/F aircraft. The different series missiles can be identified by the different infrared domes and canards on the guidance and control section (figure 1-38). Each series of missile is further identified as a basic, -1, -2, or -3 configuration depending on influence fuze or target detector and MK-17 or SR116-HP-1 rocket motor. For complete description of AIM-9E series missile, refer to classified supplement T.O. 1F-5E-34-1-1-2, and for the AIM-9J, -9N, and -9P series missile, refer to classified supplement T.O. 1F-5E-34-1-1-3.

The AIM-9 missile is a supersonic air-to-air intercept missile. The missile has an infrared (IR) radiation seeker that controls missile guidance and controls the amplitude of a tone heard in the pilot's headset. The tone is used to establish that the seeker head is operating and is used to monitor target lock-on (tracking). The guidance commands move canards to steer the missile on a collision course to the target.

AIM-9 SERIES MISSILE

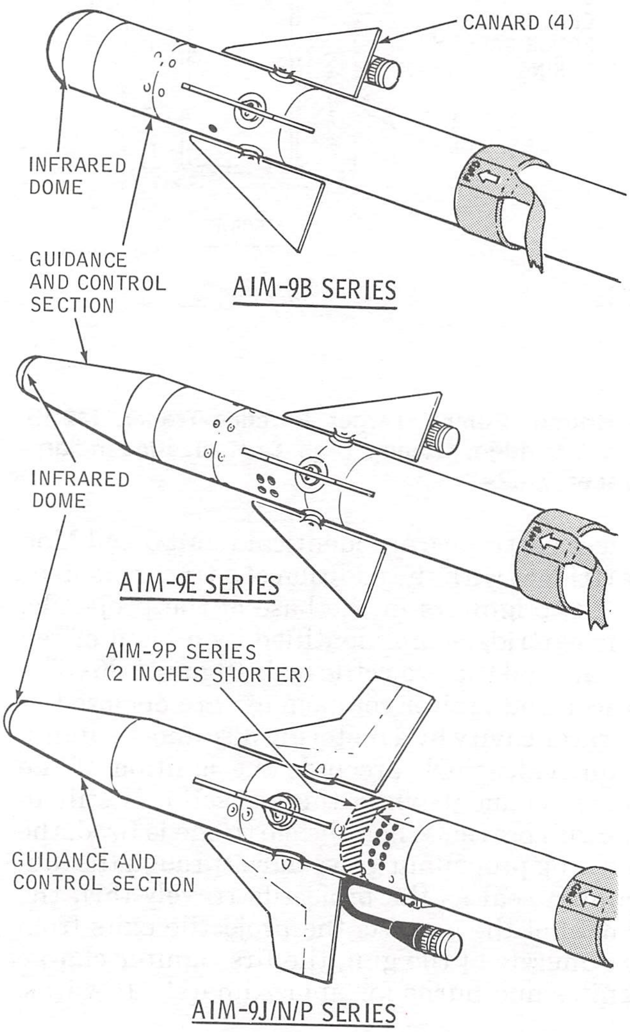


Figure 1-38.

NOTE

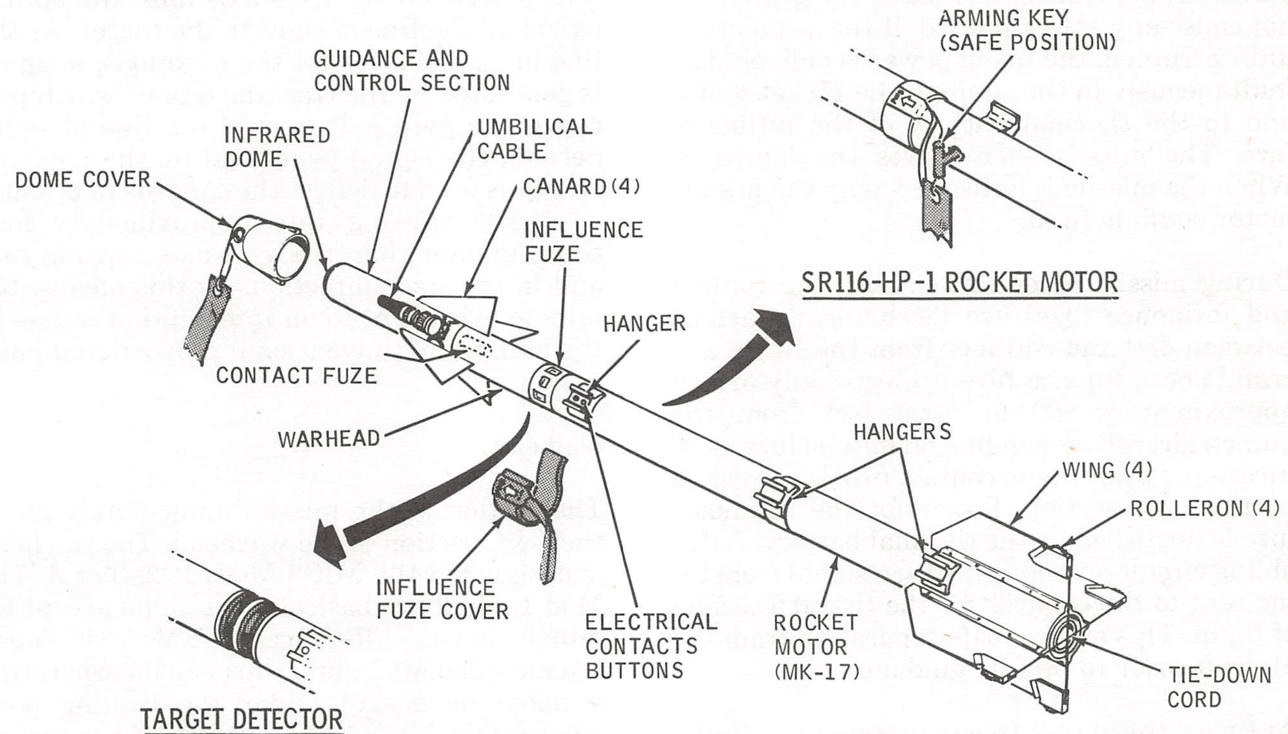
The launch data for AIM-9B/B-1 missiles are contained in this manual. Refer to classified supplement T.O. 1F-5E-34-1-1-1 for description of SR116-HP-1 rocket motor and DSU-21/B target detector for AIM-9B series missile.

AIM-9B SERIES MISSILE

The AIM-9B missile (figure 1-39) consists of five basic sections: guidance and control (G&C) section, warhead, contact fuze, influence fuze, and rocket motor and wings. Aircraft power is supplied to the missile when electrical power is on the aircraft. Aircraft electrical power mechanically uncages the missile seeker gyro. The missile seeker gyro is electrically caged when the gyro comes up to speed.

When the weapon release button is pressed, the initial firing impulse fires a grain generator. Gas pressure from the generator rotates the electrical (turbo) generator in the G&C, which supplies internal electrical power for missile operation. When the electrical generator reaches operating speed, output voltage is applied to energize a relay in the missile launcher, which applies aircraft electrical power to the striker points of the missile launcher. The time is 0.75 seconds nominal. If the sequence

AIM-9B SERIES MISSILE



CHARACTERISTICS	AIM-9B	AIM-9B-1	AIM-9B-2	AIM-9B-3
WEIGHT	165 LB	165 LB	178 LB	178 LB
LENGTH	112 IN	112 IN	112 IN	112 IN
DIAMETER	5 IN	5 IN	5 IN	5 IN
WINGSPAN	22 IN	22 IN	22 IN	22 IN
SEEKER-FIELD-OF-VIEW	4 DEG	4 DEG	4 DEG	4 DEG
GIMBAL LIMITS	±26 DEG	±26 DEG	±26 DEG	±26 DEG
SEEKER TYPE	LEAD SULFIDE			
FUZING				
CONTACT *	MK-304	MK-304	MK-304	MK-304
INFLUENCE	MK-303	——	MK-303	——
TARGET DETECTOR	——	DSU-21/B	——	DSU-21/B
WARHEAD EFFECTIVE RADIUS	22 FT	22 FT	22 FT	22 FT
MISSILE STEERING	PROPORTIONAL NAVIGATION			
ROCKET MOTOR	MK-17	MK-17	SR116-HP-1	SR116-HP-1
THRUST/DURATION (AT 70°F)	4000 LB/2.1 SEC		REFER TO T.O. 1F-5E-34-1-1-1	
MAX GUIDED FLIGHT TIME	20 SEC	20 SEC	20 SEC	20 SEC
INFLIGHT CARRIAGE & SEQUENCING LIMITATIONS	REFER TO FLIGHT MANUAL			

* OPTIONAL WHEN MK-303 MOD 4 INFLUENCE FUZE OR DSU-21/B TARGET DETECTOR INSTALLED

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Figure 1-39.

is interrupted before the relay is closed, the grain continues burning, but motor firing does not occur, and the missile does not leave the launcher. Continued burning of the grain does not cause any safety hazard. If the sequence is uninterrupted, the firing power is delivered simultaneously to the squib of the rocket motor and to the thermal battery of the influence fuze. The missile then leaves the launcher. When the missile is jettisoned, only the missile motor squib is fired.

During missile acceleration, both the contact and influence fuzes are mechanically armed between 480 and 840 feet from the firing aircraft. The influence fuze is electrically armed approximately 800 or 3000 feet from the launch aircraft, depending on missile fuze modification. Power to the contact fuze is furnished by the G&C section. Power for the influence fuze is furnished by the thermal battery. A disabling circuit prevents any turn signal from being sent to the canards for the first 0.5 second of flight. This assures safe separation from the aircraft prior to missile guidance.

At firing, the gyro is free to precess to its limits in any direction necessary to track the target. The gyro drive power is removed at launch, and the gyro coasts during the flight time of the missile. Maximum burning time of the grain and, therefore, maximum guided flight of the missile is approximately 20 seconds. The warhead is detonated either on contact with the target, or in the case of a near miss, by action of the influence fuze or target detector. The missile has approximately 11g lateral single-plane maneuver capability.

If the missile does not approach the target close enough for fuze action, a self-destruct sequence is initiated in the influence fuze to detonate the warhead.

Guidance and Control Section

The G&C section contains the infrared target seeker, which tracks the target, the canards, which control the flight of the missile, and the umbilical cable for interface with the launcher.

The G&C section performs two primary operations. First, the missile optical system, which is a space-stabilized gyro, detects angular deviations between the gyro axis (also the optical axis) and the line of sight to the target. As the line of sight moves off the gyro axis, a signal is generated by the tracking circuit which precesses the gyro axis toward the line of sight. Second, the signal generated by the tracking circuit is used to deflect the canards to produce a missile turning rate approximately four times greater than the gyro-axis turning rate and in the same direction. By this means, the missile is brought to an interception course in the manner of conventional proportional navigation.

Warhead

The section of the missile immediately aft of the G&C section is the warhead. The warhead is designated the MK-8 Mods 1, 2, 3 or 4. The Mod 1 and 2 are basically the same except for minor internal differences. The Mod 3 warhead is a modified Mod 1 or 2 warhead incorporating a neoprene gasket under the loading port; whereas the Mods 1 and 2 utilize a fiber gasket. The purpose of the neoprene gasket is to retain any explosive exudate caused by melting of the HBX explosive due to aerodynamic heating. The Mod 4 warhead also has the neoprene gasket installed under the loading port. The AIM-9 missile is not restricted by any aircraft speed or flight profiles when the Mod 3 or 4 warhead is installed. The 25-pound warhead consists of approximately 14-1/2 pounds of metal and 10-1/2 pounds of HBX explosive. The explosive charge produces about 1300 high-velocity (6000 feet per second) fragments. The lethal radius of the warhead is about 22 feet. The fragments are capable of penetrating 3/8-inch steel plate at this radius. The warhead is detonated upon impact or by passing near the target. Detonation by impact is accomplished by the MK-304 contact fuze. If the missile passes near the target, the MK-303 influence fuze, or DSU-21/B target detector, generates a firing signal to detonate the warhead. An exercise warhead is similar in weight and configuration to the MK-8 warhead and may be used against drones and target rockets.

Contact Fuze

The MK-304 contact fuze is mounted on the rear of the G&C section, and the end containing the booster charge fits into the center of the warhead section. Safety during handling and in use is assured by the incorporation of two different safety devices. The pyrotechnic firing train is interrupted by an escapement-type mechanism which can be armed only by a strong, prolonged acceleration. The contact fuze does not receive power until the turbogenerator within the missile has reached operating speed and until the safety short in the umbilical block has been broken by the missile launching.

The contact fuze is actuated by means of a piezoelectric (barium titanate) crystal. A crystal is mounted to each rocker arm of the G&C section. When the missile strikes the target, the shock to the rocker arms causes the crystal to generate a voltage. This voltage triggers the contact fuze, resulting in instantaneous detonation of the warhead.

Influence Fuze

The MK-303 series influence fuze is used in AIM-9B and AIM-9B-2 missiles. It consists of an aluminum housing containing a target detecting device, safety and arming device, thermal battery, and booster. The aft end is threaded for attachment to the rocket motor, and forward end provides a clamp groove for attachment of the fuze to the warhead. The booster extends into the fuze well located in the aft end of the warhead. The basic safety and arming device consists of a mechanical arming device which arms between 480 and 840 feet from the aircraft. The MK-303 Mod 2 fuze also contains an electrical arming device which prevents complete arming during missile acceleration. At rocket motor burnout when deceleration occurs (approximately 3000 feet separation from the launching aircraft or 2.2 seconds after launch), the acceleration switch opens, initiating electrical arming of the fuze.

The influence fuze will be actuated if the missile fails to make a direct hit on the target but passes closer than 30 feet. If the missile misfires and remains on the aircraft, the safety and arming device will prevent complete arming of the fuze. The thermal battery is exhausted after approximately 30 seconds. The MK-303 Mod 2 influence fuze initiates a self-destruct sequence that detonates the warhead within approximately 26 seconds from time of launch. Refer to classified supplement T.O. 1F-5E-34-1-1-1 for complete description of MK-303 series influence fuzes.

Target Detector

The DSU-21/B target detector is used in AIM-9B-1 and AIM-9B-3 missiles. It replaces the MK-303 influence fuze. For complete description of DSU-21/B target detector, refer to classified supplement T.O. 1F-5E-34-1-1-1.

Rocket Motor and Wings

The MK-17 rocket motor is used in AIM-9B and AIM-9B-1 missiles. It is approximately 75 inches long and provides 4000 pounds of thrust with a 2.1-second burning time at 70°F to boost the missile to approximately 1.7 mach above a 1.0 mach launch. Four large wings are mounted on the aft section of the motor for lift and stability. To control missile roll, rollerons are incorporated on each wingtip. The rollerons are small gyros mounted in hinged portions of the wings. Wind pressure causes the rollerons to rotate at all times during flight. The rollerons are prevented from moving laterally prior to launch by mechanical caging and tie-down cord. The tie-down cord is burned during missile launch and the rollerons are uncaged by missile acceleration. During missile flight, any roll tendency is opposed by the gyro precession force on the hinged part of the wings, damping the roll.

The SR116-HP-1 rocket motor is used in AIM-9B-2 and AIM-9B-3 missiles. It replaces the MK-17 rocket motor. For complete description of SR116-HP-1 rocket motor, refer to classified supplement T.O. 1F-5E-34-1-1-1.

Missile Audio Tone and Target Tracking

With electrical power on the aircraft, the gyro spins to keep the seeker line of sight in line with the missile boresight line (longitudinal axis). The missile line of sight is in line with the pipper on the optical sight when the sight is depressed to the radar boresight line. The field of view of the target seeker is 4 degrees or 70 mils, which is slightly larger than the 50-mil diameter optical sight reticle. After launch, the gyro is uncaged and free to direct the sight line on the target. The gimbal limits of the gyro are 26 degrees in all directions. The missile seeker head can be uncaged before launch to self-track the target by pressing the missile uncage switch. When the switch is released, the seeker returns to missile boresight. With an uncaged seeker, the pilot can maneuver the aircraft off boresight (within missile gimbal limits of 26 degrees) to achieve a better position in the launch envelope. Additionally, at launch time, the pilot can usually improve missile probability of kill (PK) against a maneuvering target by pulling lead. This changes the envelope boundaries and in most cases improves the launched missile's chance of success. Discretion must be exercised, however, because if the pilot is near the missile launch boundary inside the target turn, the time spent establishing lead can increase angle-off, reduce range, and drive the attacker out of the envelope that was improved by establishing the lead angle.

a. IR target tone is essential prior to and while uncaging the seeker.

b. Once the seeker head has been uncaged and lead established, it is essential that the pilot keep the missile uncage switch depressed until missile launch. If the missile uncage switch is inadvertently/intentionally released, the seeker head breaks target lock-on and returns to the boresight line. The target must then be reacquired by placing the target back in the missile field of view (sight reticle).

c. Missiles should never be launched within 20 degrees of the sun. If the target maneuvers to bring the missile line of sight within 20 degrees of the sun while the seeker head is uncaged, the seeker head is decoyed by the sun. The target must then be reacquired by releasing the missile uncage switch and placing the target back in the missile field of view (sight reticle).

NOTE

> If the target lock-on is lost and the uncage switch is not released, the seeker continues to wander aimlessly.

The audio tone produced by the missile can be controlled as desired by rotating the AIM-9 missile volume control knob on the armament control panel. The pilot should adjust this to a comfortable level by passing the missile line of sight thru some heat sources such as the horizon or a cloud. The audio tone indications of the missile when the seeker head is caged are defined by the following types of noise:

a. Background Noise. This is a sizzling sound present when the seeker is looking at blue sky to indicate no IR target.

b. Loud Noise. This is a marked increase in the volume level (amplified) from the background noise to indicate that the seeker is sensing an IR target.

c. Null. The volume of sound level drops to approximately background sound level to indicate the target is directly in the center of the seeker line of sight. The null can be mistaken for loss of target; however, the null cone is very narrow permitting verification of IR lock-on. Slight displacement of the pipper should reestablish the loud noise and verify IR lock-on.

When the seeker head is uncaged (missile uncage switch pressed), any of the following may occur and all have been experienced in successful firings of the missile:

a. Warble (or Choppy) Noise. A warble noise is a combination of the loud noise and the null recurring as the seeker attempts to self-track the target. A clearly identified warble noise is a good indication of seeker self-track.

b. Null. A null is produced when the seeker head is self-tracking in very tight control, keeping the IR target in the center of the null cone. (A null is improbable against a maneuvering target.)

c. Loud noise (no change in volume level when the seeker head is uncaged). This is likely when the self-tracking movement of the seeker fails to pass through the narrow centerline null cone.

After acquiring the target, the pilot uncages the missile gyro, which changes the audio tone being received from a strong, constant one to a choppy one which is close to the background noise in intensity.

NOTE

> If target acquisition is evident at uncage and there is no reason to believe lock-on was lost (such as exceeding gimbal limits, sun proximity, or missile uncage switch released), missiles should be launched without reacquisition.

Employment Concepts

Aerial attack is the most complex mission to perform because the pilot must maneuver relative to an unpredictable target. In the heat of battle, concentration must be on the target and the rules of thumb must be simple.

a. Switchology. Ensure that missile is selected armed. Know the status of missiles.

b. Prelaunch Positioning. Maneuvering to the heart of the launch envelope provides the best kill probability. Specifically, achieve a position at low angle-off (less than 26 degrees) and optimum range (5000 to 7500 feet, depending on altitude and delta mach). Launch range for various conditions must be thoroughly understood prior to employment. Range estimation can be made using the optical sight: a 30-foot wing span target at 6000-foot range is 5 mils wide. If tactical considerations permit, the attacker should not be satisfied with a position in the outer extremities of the launch envelope. If a missile is launched for effect, the attacker may never have another chance to achieve satisfactory launch parameters. If the attacker doubts that he is well inside the launch envelope, basic maneuvers should be employed to achieve a better launch position.

c. Target Acquisition. As discussed under missile audio tone and target tracking, the uncage capability provides an added advantage for AIM-9B employment. If target self-track is achieved at longer ranges and lag pursuit is flown, the chances of achieving a good launch position are improved. Maneuvers can be performed while the missile is in self-track as long as the 26-degree missile gimbal limits are not exceeded. If self-track is lost, the target must be reacquired. Since a variety of tone situations can exist in self-track, tone assessment should not be used to determine if the missile seekers are self-tracking the target. AIM-9B missiles have the capability to discriminate against background noise (i.e., clouds or the earth) if the attacker is in the heart of the launch envelope. Many firing opportunities occur with the target in a vertical dive and the attacker overhead in pursuit. If target acquisition is assured and a good position is achieved, the probability of success is high.

d. Missile Launch. Tactical considerations should govern the number of missiles to be employed in a given situation. In any case, launching both missiles is recommended. In summary, the rules of thumb for successful missile employment are as follows:

(1) Set up the switches properly and check missile status prior to battle.

(2) Maneuver to the heart of the launch envelope.

(3) Ensure target acquisition.

(4) Launch both missiles.

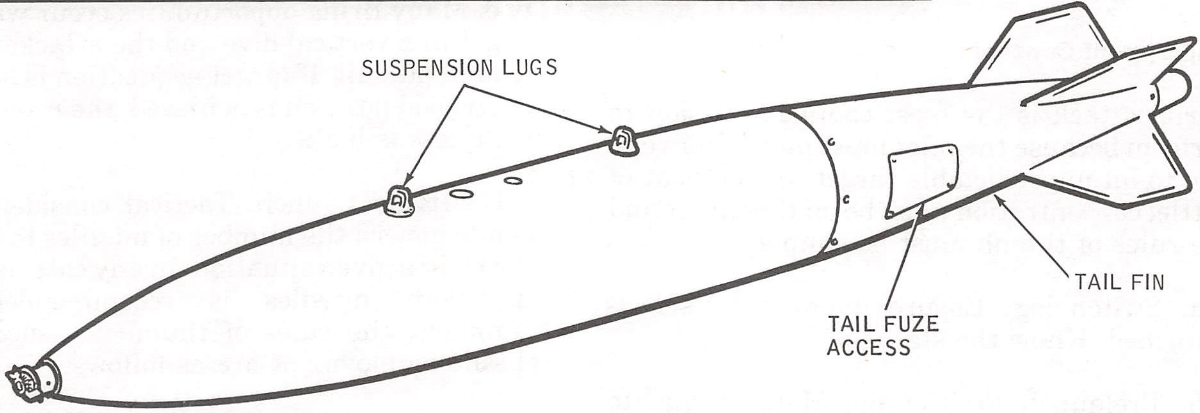
MK-82, MK-83 AND MK-84 GP BOMB

The MK-82, MK-83 and MK-84 general purpose (GP) bombs (figure 1-40) are normally used for demolition operations. The bombs are identical in construction and operation except for size and weight. The fin cone assembly contains four access holes with closing covers. Two modified oval shape access holes, approximately 6.5 inches long, provide access for installation of the tail fuze. Two smaller holes provide for the attachment of the ATU-35 series drive assembly used with the M905 tail fuze. The fin assembly must be mounted in the X-configuration when the bomb is carried. Two suspension lugs, spaced 14 inches apart on the MK-82, MK-83 bombs and 30 inches apart on the MK-84 bomb, are provided on the top of the bomb. The bomb body is filled with high explosive. Nose and tail cavities are provided for adapter boosters and fuzes, to ensure reliability of functioning and to cause the desired effect, which may be blast, mining, or fragmentation. Two conduits within the bomb body connect the nose and tail fuze cavities to the charging well between the suspension lugs and are used for routing the FMU-series fuze lanyards. The M-series nose and tail fuzes require arming wires to maintain the fuzes in a safe (unarmed) condition until release. The adapter boosters accommodate the body of the fuzes and contain a booster charge which ensures proper detonation of the high-explosive charge.

OPERATION

Operation of the bomb commences upon release when the arming wires are withdrawn from the M-series fuzes or the arming lanyards pulled on the FMU-series fuzes, permitting the fuzes to arm. Upon impact with the target, one or both fuzes operate, igniting the explosive train, which relays and amplifies the blast in order to detonate the bursting charge of the bomb. If either fuze (nose or tail) malfunctions, the other fuze causes detonation of the bomb.

MK-82, MK-83 & MK-84 GP BOMB (TYPICAL)



CHARACTERISTICS	MK-82	MK-83	MK-84
WEIGHT	531.0 LB	985.0 LB	1970.0 LB
LENGTH	86.0 IN	118.7 IN	151.5 IN
DIAMETER	10.8 IN	14.0 IN	18.0 IN
FIN SPAN	15.0 IN	19.6 IN	25.3 IN
FIN ASSEMBLY	MK-82 OR MAU-93/B	MK-83	MK-84
SUSPENSION LUG SPACING	14.0 IN	14.0 IN	30.0 IN
STATION COMPATIBILITY	ALL PYLONS	INBD & CL PYLON	CL PYLON
FUZES	SEE WEAPON-FUZE COMPATIBILITY CHART.		
CARRIAGE/RELEASE/JETTISON LIMITS	REFER TO FLIGHT MANUAL.		

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Figure 1-40.

If the bomb is released in the safe condition, the M-series fuze arming wires are not withdrawn from the fuze safety devices or the FMU-series fuze arming lanyards are not pulled. Without fuze operation, the bomb is usually a dud.

GBU-10F/B, -12E/B LASER-GUIDED BOMBS

The laser-guided bomb (LGB) consists of a GP bomb warhead and a guidance kit including the computer control group and airfoil group. The GBU-10F/B and GBU-12E/B LGB are similar except for differences in weight and size. The GBU-10F/B consists of MK-84 bomb warhead and MXU-651/B airfoil group; the GBU-12E/B a MK-82 bomb warhead and MXU-650/B airfoil group. Both bombs use the same MAU-169C/B computer control group (figure 1-41). The guidance kit provides laser terminal guidance capability for the LGB. No specific carriage equipment is necessary. The weapon is carried on the pylons and released thru normal weapon release controls.

COMPUTER CONTROL GROUP

The MAU-169C/B computer control group (CCG) consists of laser illumination detector, bomb guidance computer, and the guided bomb control.

Laser Illumination Detector

The laser illumination detector, the forward unit of the computer control group, consists of a detector dome, optical equipment, laser detector, and signal mixer and preamplifier networks. The detector is gimbal-mounted on a universal joint assembly. During bomb trajectory flight, the detector boresight axis is maintained along the bomb velocity by the ring stabilizer. The four-quadrant detector receives invisible laser energy in the near-infrared spectrum. The detector, in turn, generates signals with characteristics that are a function of the detector quadrant or quadrants receiving the energy. The signals, which eventually become both pitch and yaw commands, are directed to the bomb guidance computer.

Bomb Guidance Computer

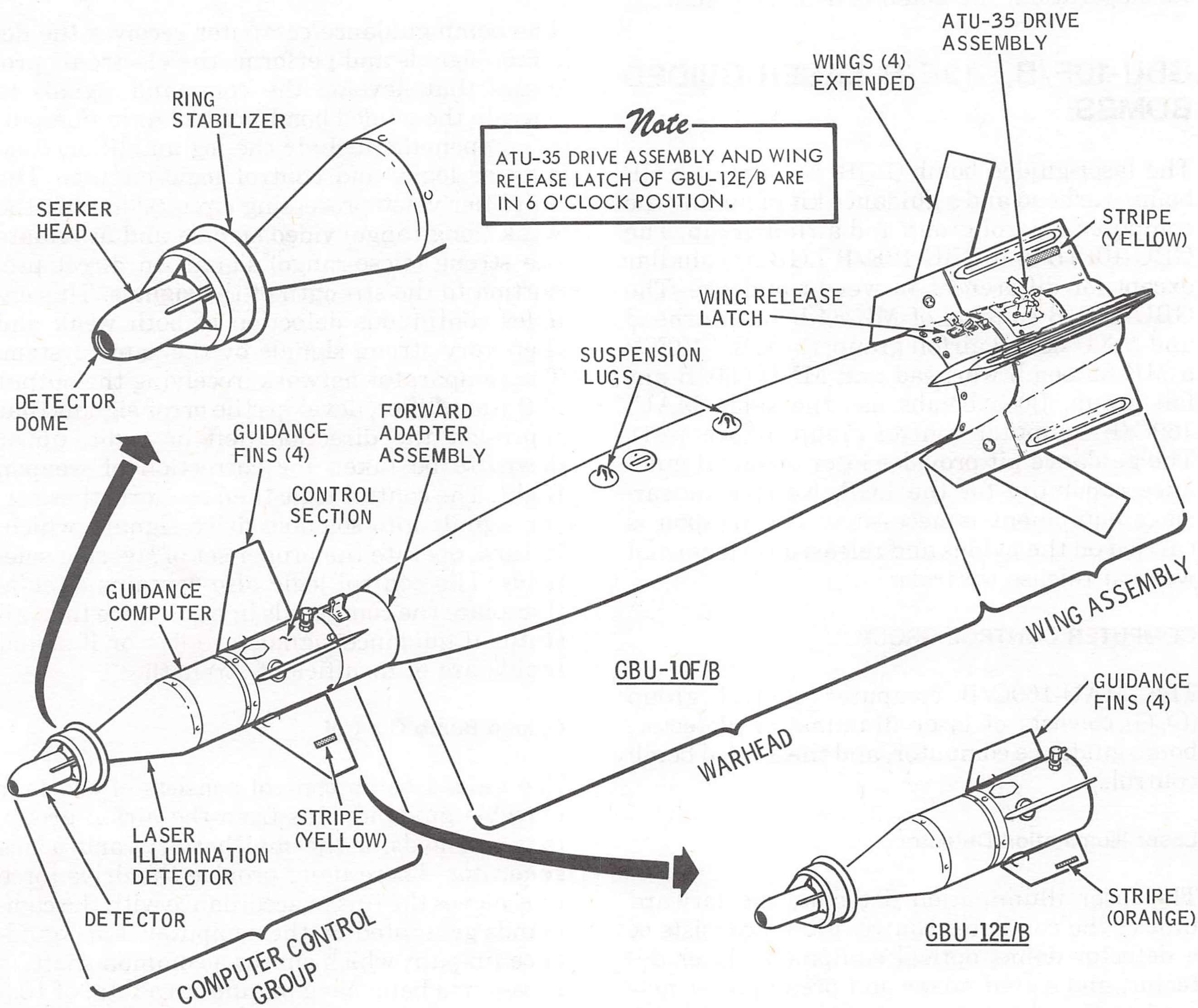
The bomb guidance computer receives the detector signals and performs the electronic processes that develop the command signals to operate the guided bomb control unit. Computer components include the log amplifier, comparator logic, and control logic circuits. The amplifier video processing circuits amplify the weak (long-range) video signals and attenuate the strong (close-range) signals in direct proportion to the strength of the signals. This enables continuous detection of both weak and then very strong signals by the same system. The comparator network, receiving the output of the amplifier, develops the error signals that represent the direction (left or right, up or down) to be taken for correction of weapon flight. The control logic then converts these error signals into solenoid drive signals, which, in turn, operate the proper set of steering solenoids. The control logic also contains circuits that place the commands in a guidance fin trail status if guidance signals are lost or if signal inputs are of insufficient strength.

Guided Bomb Control

The guided bomb control consists of the four movable guidance fins from the airfoil group, four solenoids, a thermal battery, and a gas generator. These units provide the drive force that moves the fins in accordance with the commands generated by the computer. Each guidance fin pair, which shares a common shaft, is driven in a bang-bang manner to a total of 10.5 degrees movement in either direction. In the absence of any command, the guidance fins are maintained in trail position by the airstream.

The thermal battery firing device is safed by a pull pin that receives an arming cable, routed and secured to the bomb rack swaybrace and safetywired. The GBU-10F/B cable is attached to the right aft swaybrace; GBU-12E/B cable to the left forward swaybrace.

GBU-10F/B, GBU-12E/B LASER-GUIDED BOMB (TYPICAL)



CHARACTERISTICS	GBU-10F/B	GBU-12E/B
WEIGHT	2083 LB	610 LB
LENGTH	170 IN	131 IN
DIAMETER	18 IN	11 IN
WARHEAD	MK-84	MK-82
WING SPAN (FOLDED)	28 IN	18 IN
WING SPAN (EXTENDED)	65.6 IN	52 IN
COMPUTER CONTROL GROUP	MAU-169C/B	MAU-169C/B
AIRFOIL GROUP	MXU-651/B	MXU-650/B
SUSPENSION LUG SPACING	30 IN	14 IN
STATION CAPABILITY	CL PYLON	ALL PYLONS
FUZES	FMU-26B/B NOSE/TAIL, FMU-81/B NOSE/TAIL M905 TAIL WITH ATU-35 DRIVE ASSEMBLY.	
CARRIAGE/RELEASE JETTISON LIMITS	REFER TO FLIGHT MANUAL T.O. 1F-5E-1.	

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Figure 1-41.

AIRFOIL GROUP

The airfoil group consists of the wing assembly, forward adapter assembly and guidance fins. The differences between the MXU-650/B and MXU-651/B airfoil groups are in size, and the matching color stripes marked on the wing assembly and guidance fins for identification. The MXU-650/B has orange stripes, the MXU-651/B has yellow stripes.

Wing Assembly

The wing assembly contains four folded wings, four coil springs, and a wing release latch. The wings are extended upon bomb release to provide aerodynamic stability and lift to the bomb. The wing release latch is secured by the wing release lanyard to the bomb rack swaybrace. The GBU-10F/B lanyard is attached to the left aft swaybrace; GBU-12E/B lanyard to the right aft swaybrace. When the wings are folded, the coil springs are compressed and the latching mechanism retains the wings against the pressure of the springs. Upon bomb release, the lanyard releases the latching mechanism and the wings are extended by the springs. Two dashpots dampen the extension, permitting wing assembly to clear the aircraft before the wings are fully extended. Access holes provide mounting points for the ATU-35 drive assembly, which drives the M905 tail fuze. A wing fairing safety pin is installed to prevent accidental extension of the wings on the ground.

Forward Adapter Assembly

The forward adapter assembly provides mounting and interfacing structure between the computer control group and the bomb warhead. An FMU-series electrical fuze may be installed thru the adapter and into the nose fuze well of the bomb.

Guidance Fins

The guidance fins are mounted on the guided bomb control section. The fins are moved by the electromechanical/pneumatic system in response to command signals from the computer. Torque applied to the control shafts deflects the fins to act against the airstream to direct the bomb toward the target.

OPERATION

Operation of the LGB commences upon release when the following occur:

a. Arming lanyard (FMU-series fuze)/arming wire (M905 tail fuze) is pulled, permitting the fuzes to arm.

b. Thermal battery arming cable is pulled, releasing the firing pin to activate the thermal battery.

c. Wing release lanyard is pulled, releasing the latch lever to extend the folded wings.

After a 2-second delay, the thermal battery activates the gas generator which supplies the pneumatic pressure to operate the guidance fins. The bomb guidance system sensing the laser energy, derives azimuth and elevation steering commands for the movable guidance fins to provide steering to the illuminated target. In the event of failure of the computer control group, the LGB falls in the same manner as a conventional unguided bomb. Upon impact with the target, one or both fuzes operate, igniting the explosive train, which relays and amplifies the blast in order to detonate the bursting charge of the bomb. If either fuze (nose or tail) malfunctions, the other fuze causes detonation of the bomb. If the LGB is released in a safe condition, the M905 fuze arming is not withdrawn from the ATU-35 drive assembly and the FMU-series fuze arming lanyards are not pulled. However, the thermal battery is activated and the bomb falls in a safe but guided condition. Without fuze operation, the bomb is usually a dud.

MK-82 SNAKEYE I BOMB

The MK-82 Snakeye I bomb (figure 1-42) is a general purpose bomb with a fin retarding device. Bombs with an MK-15, Mod 3, 3A, or 4 fin retarding device can be recognized by the setscrews and setscrew access holes which attach the retarding fins to the bomb body near the aft end of the bomb body. Bombs with MK-15, Mod 0, 1, or 2 fin retarding devices have the fins attached to the bomb body with a snap ring and garter spring. There are no setscrew access holes in the fins. The bomb fin retarding device

MK-82 SNAKEYE AND MK-36 DESTRUCTOR



CHARACTERISTICS	MK-82 SNAKEYE	MK-36
WEIGHT	570.0 LB	572.0 LB
LENGTH	89.5 IN	89.5 IN
DIAMETER	10.8 IN	10.8 IN
FIN SPAN (BEFORE RELEASE)	15.1 IN	15.1 IN
FIN SPAN (AFTER RELEASE)	65.3 IN	65.3 IN
FIN ASSEMBLY	MK-15 SERIES	MK-15 SERIES
SUSPENSION LUG SPACING	14.0 IN	14.0 IN
STATION COMPATIBILITY	ALL PYLONS	ALL PYLONS
FUZES	SEE WEAPON-FUZE COMPATIBILITY CHART.	
CARRIAGE/RELEASE/JETTISON LIMITS	REFER TO FLIGHT MANUAL.	

F-5 34-40(1)B

Figure 1-42.

is secured in the closed positions by a release band. The high drag caused by opened fins permits high-speed, low-angle and/or low-altitude delivery by eliminating the danger of aircraft damage due to ricocheting bombs or fragments from detonating bombs.

OPERATION

Operation of the bomb commences upon release when the tail fin release wire that safeties the retarding fins in the closed position is withdrawn from the release latch, releasing the release band, permitting the retarding fins to deploy to the open position. As the retarding fins open, the nose fuze arming wire is withdrawn from the nose fuze, permitting the fuze to arm. Upon impact with the target, the fuze operates, igniting the explosive train, which relays and amplifies the blast in order to detonate the bursting charge of the bomb.

If the bomb is released in a safe condition, the tail fin release wire swivel and link will release from the rack arming solenoid, preventing the retarding fins from opening and nose and tail fuzes from arming. Without fuze operation, the bomb is usually a dud.

MK-36 DESTRUCTOR

The MK-36 destructor is similar to the MK-82 Snakeye I bomb except for fuzing. Instead of a nose and tail fuze, the destructor uses an MK-75 series modification kit whose principal components are an arming device installed in the nose and a firing mechanism installed in the tail. The arming device and firing mechanism are connected electrically by a cable running thru the bomb conduits and charging well. The Mod number of the destructor is determined by the Mod number of the MK-75 series kit installed.

MK-75 KITS

The MK-75 Mods 0, 1, 2, and 3 modification kits are very similar. The MK-75 Mods 1/1A kits contain the MK-30 Mod 0/MK-32 Mod 1 arming device, the MK-42 Mod 1 firing mechanisms, and a variety of other tools necessary to convert the MK-82 Snakeye to the MK-36 destructor. The MK-75 Mods 2/3 kits contain the MK-32 Mod 1 arming device, the MK-42 Mods 2/3 firing mechanisms, and a variety of other tools.

OPERATION

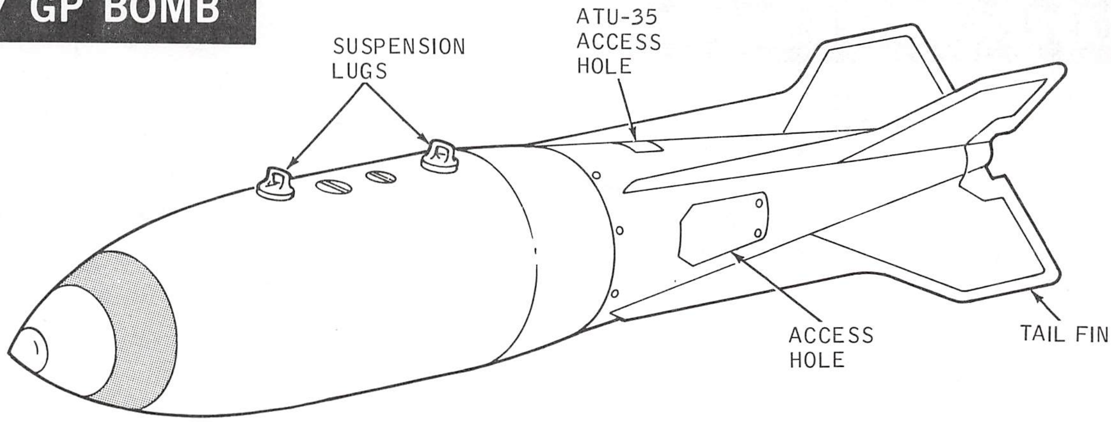
Refer to classified supplement T.O. 1F-5E-34-1-1-1 for operation of the MK-36 destructor.

M117 GP BOMB

The M117 general purpose (GP) bomb (figure 1-43) is normally used for demolition operations. The bomb has a cylindrical metal body, and a tapered aft section with an elongated MAU-103/B, or MAU-103A/B model conica fin assembly attached. The fin assembly im- proves the aerodynamic performance of the bomb and permits greater accuracy in bomb- ing. The fin assembly must be mounted in the X configuration when the bomb is carried.

The basic structural material of the bomb is steel. Two suspension lugs, spaced 14 inches apart, are provided on the top of the bomb. The bomb body is filled with approximately 386 pounds of high explosive. Nose and tail cavities are provided for adapter boosters, to ensure re- liability of functioning and to cause the desired effect, which may be blast, mining, or fragmen tation. Two conduits within the bomb body con nect the nose and tail fuze cavities to th charging well between the suspension lugs and are used for routing the FMU-series fuze lan yards. The M-series nose and tail fuzes requir arming wires to maintain the fuzes in a safe (unarmed) condition until release. The adapte boosters, which are issued as separate units serve to fill the 3-inch diameter fuze cavities

M117 GP BOMB



CHARACTERISTICS

WEIGHT	824.0 LB
LENGTH	90.0 IN
DIAMETER	16.0 IN
FIN SPAN	
MAU-103/B	19.0 IN
MAU-103A/B	22.0 IN
FIN ASSEMBLY	MAU-103/B, OR MAU-103A/B
SUSPENSION LUGS SPACING	14.0 IN
STATION COMPATIBILITY	ALL PYLONS
FUZES	SEE WEAPON-FUZE COMPATIBILITY CHART.
CARRIAGE/RELEASE/JETTISON LIMITS	REFER TO FLIGHT MANUAL.

F-5 34-160(1)A

Figure 1-43.

to accommodate the body of the fuzes, and contain a booster charge which ensures proper detonation of the high explosive charge. The fin cone assembly contains four access holes with closing covers. Two modified oval shape access holes, approximately 6.5-inches long, provide access for intallation of a tail fuze. Two smaller holes provide for the attachment of the ATU-35 series drive assembly used with the M905 tail fuze. On later manufactured fin cone assemblies, all access holes are covered with knockout panels.

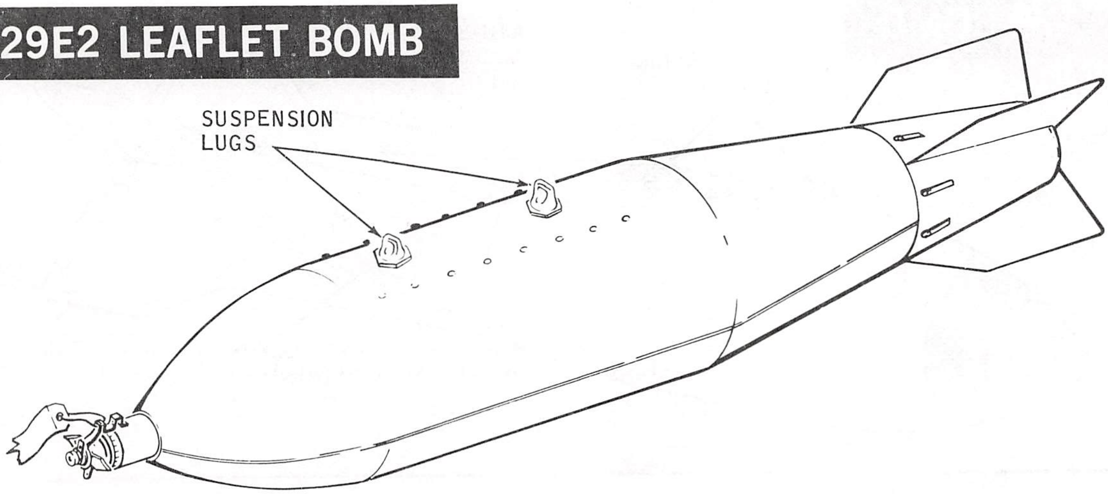
OPERATION

Operation of the bomb commences upon release when the arming wires are withdrawn from the M-series fuzes or the arming lanyards pulled on the FMU-series fuzes, permitting the fuzes to arm. Upon impact with the target, one or both fuzes operate, igniting the explosive train, which relays and amplifies the blast in order to detonate the bursting charge of the bomb. If either fuze (nose or tail) malfunctions, the other fuze causes detonation of the bomb. If the bomb is released in the safe condition, the M-series fuze arming wires are not withdrawn from the fuze safety devices or the FMU-series fuze arming lanyards are not pulled. Without fuze operation, the bomb is usually a dud.

M129E2 LEAFLET BOMB

The M129E2 bomb (figure 1-44) is used to distribute leaflets. The bomb is fuzed with a mechanical time fuze which causes the bomb to open before impact and disperse the leaflets. The bomb is split longitudinally into two fiberglass-reinforced plastic sections which are held together by four latches on each side. When joined, these halves form a cylindrical body. No provision is made for a tail fuze. A reinforcing plate is installed beneath fiberglass in the lug areas to permit proper swaybracing and make it capable of withstanding forced ejection from an aircraft. A conical fin is attached to stabilize a bomb in flight.

M129E2 LEAFLET BOMB



CHARACTERISTICS

WEIGHT, EMPTY	92.0 LB
WEIGHT, FULL	203.0 LB (DEPENDS ON WEIGHT OF PAPER)
LENGTH	90.0 IN
DIAMETER	16.0 IN
FIN SPAN	22.8 IN
FIN ASSEMBLY	M148
SUSPENSION LUG SPACING	14.0 IN
STATION COMPATIBILITY	ALL PYLONS
FUZES	SEE WEAPON-FUZE COMPATIBILITY CHART.
CARRIAGE/RELEASE/JETTISON LIMITS	REFER TO FLIGHT MANUAL.

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Figure 1-44.

Other components include an arming wire, an adapter-booster assembly, and detonating cord (Primacord). The arming wire is threaded thru the fuze safety device, thus maintaining the fuze in a safe (unarmed) condition until release. The adapter-booster accommodates the fuze and maintains the detonating cord in the proper position. The detonating cord is used to effect separation of the two bomb body sections.

OPERATION

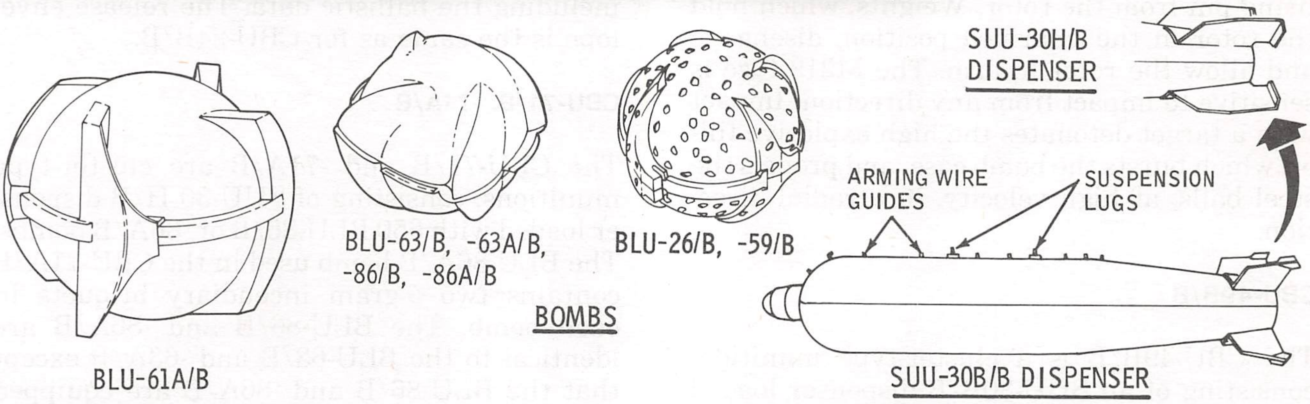
Operation of the bomb occurs a predetermined number of seconds after release. Functioning of the fuze causes the booster to ignite and detonate the Primacord. The Primacord is inserted thru the adapter booster and longitudinally around the entire bomb. Detonation of the Primacord separates the two body sections, detaches the fins, and allows the leaflets to be released and scattered. If the nose fuze fails to function, the bomb disintegrates upon impact.

CLUSTER BOMBS AND DISPENSERS

SUU-30B/B DISPENSER

The SUU-30B/B dispenser (figure 1-45) is divided in half longitudinally. The dispenser skin is of low alloy, high strength steel. The two halves are locked together by a nose locking cap at the forward end and by a baseplate, which is screwed into both halves, at the aft end. The nose section contains a nose cap, coupling, adapter and plug, breech cap, and lanyard tube. The dispenser is constructed to accommodate the M907; FMU-26A/B and -26B/B; and FMU-56/B, -56A/B, -56B/B, and -56D/B fuzes. The retention post located between the aft suspension lug and the tail fin provides an attachment point for lanyards that are used with FMU-26A/B and -26B/B and FMU-56/B, -56A/B, -56B/B, -56D/B fuzes and the M907 fuze arming wire (figure 1-72, sheet 1). A dual set of external arming wire guides are positioned along the top half to prevent excess arm-

CBU-24B/B, -49B/B, -52B/B, -58/B, -58A/B, -71/B & -71A/B CLUSTER BOMBS



CHARACTERISTICS

WEIGHT	SEE TABLE.
LENGTH	88.0 IN
DIAMETER	16.0 IN
FIN SPAN	23.0 IN
SUSPENSION LUG SPACING	14.0 IN
STATION COMPATIBILITY	ALL PYLONS
FUZES	SEE WEAPON-FUZE COMPATIBILITY CHART.
CARRIAGE/RELEASE/JETTISON LIMITS	REFER TO FLIGHT MANUAL.

CLUSTER BOMB	DISPENSER	BOMBS		TOTAL WEIGHT (LB)
CBU-	SUU-	BLU-	QUANTITY	
24B/B	30B/B	26/B	670	822
49B/B		59/B		
52B/B	30H/B	61A/B	220	785
58/B		63/B	650	818
58A/B		63A/B		
71/B		86/B		
71A/B		86A/B		

F-5 34-53(1)B

Figure 1-45.

ing wire vibration and to route the arming wire around the pylon ejector foot. Two identical tip plated, dual-fin attachments are located on the aft end of the dispenser body. All fins and associated hardware are shipped unassembled with the dispenser.

SUU-30H/B DISPENSER

The SUU-30H/B dispenser is identical to the SUU-30B/B dispenser except that the fin tip plates are 1.5 inches shorter and are attached vertically on the trailing edge of the fin.

CBU-24B/B

The CBU-24B/B is a cluster-type munition, consisting of an SUU-30B/B dispenser loaded with 670 BLU-26/B bombs. The BLU-26/B bomb is a spin armed, self-dispersing, fragmentation submunition that detonates upon impact. When the bomb is released into the airstream, the bomb flutes produce a high rate of spin, which induces dispersion and initiates arming the M219 fuze. Weights holding the rotor in the unarmed position are released because of centrifugal force caused by spinning. The hammer weights move back, releasing the firing pin from the rotor. Weights, which hold the rotor in the unarmed position, disengage and allow the rotor to arm. The M219 fuze is sensitive to impact from any direction. Impact with a target detonates the high-explosive filler, which bursts the bomb case, and propels the steel balls, at high velocity, in a radial direction.

CBU-49B/B

The CBU-49B/B is a cluster-type munition, consisting of an SUU-30B/B dispenser loaded with 670 BLU-59/B bombs. With the exception of submunition fuzing, the CBU-24B/B and the CBU-49B/B munitions are identical. The BLU-59/B bomb, used with the CBU-49B/B, is equipped with an M224 time-delay fuze, which detonates randomly after impact.

CBU-52B/B

The CBU-52B/B is a cluster-type munition, consisting of an SUU-30H/B dispenser loaded with 220 BLU-61A/B bombs. The BLU-61A/B is a 3.3-inch diameter, self-dispensing, spherical, high explosive/fragmentation bomb which is designed for use against materiel targets. The bomb contains a zirconium liner to provide an incendiary capability and employs the M219 fuze. The release envelope is the same as for CBU-24B/B.

CBU-58/B, -58A/B

The CBU-58/B and -58A/B are cluster-type munitions, consisting of SUU-30H/B dispenser loaded with 650 BLU-63/B or -63A/B bombs. The BLU-63A/B bomb used in the CBU-58A/B contains two 5-gram incendiary briquets in each bomb. Both the BLU-63/B and -63A/B have the same size, weight, external appearance, and use the same fuze, booster pellet, and explosive as the BLU-26/B bomb. All other features of CBU-58/B and -58A/B are the same, including the ballistic data. The release envelope is the same as for CBU-24B/B.

CBU-71/B, -71A/B

The CBU-71/B and -71A/B are cluster-type munitions, consisting of SUU-30 H/B dispenser loaded with 650 BLU-86/B or -86A/B bombs. The BLU-86A/B bomb used in the CBU-71A/B contains two 5-gram incendiary briquets in each bomb. The BLU-86/B and -86A/B are identical to the BLU-63/B and -63A/B except that the BLU-86/B and -86A/B are equipped with the M224 random delay fuze. All other features of CBU-71/B and -71A/B are the same, including the ballistic data. The release envelope is the same as for CBU-24B/B.

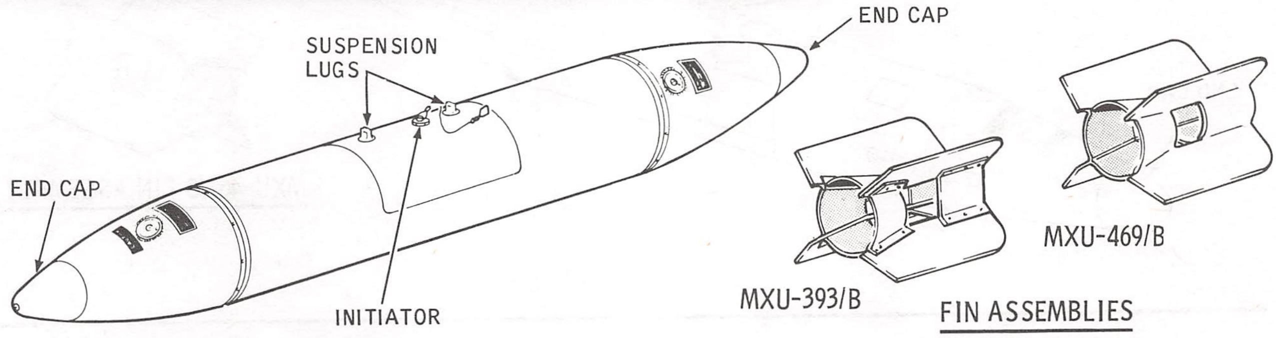
FIRE BOMBS

BLU-1 AND BLU-27 SERIES

The BLU-1/B, B/B, C/B and BLU-27/B, A/B, B/B, C/B fire bombs (figure 1-46) are incendiary weapons filled with 100 gallons of thickened fuel (Incendigel), designed for external carriage on high performance aircraft with force-ejection release systems. The BLU-1 and BLU-27 series bombs are identical externally except for a bolted flange on the bottom of the BLU-1 series. The basic structural material is aluminum with a reinforced area below the suspension lugs for swaybracing and downward ejection. The bombs are adapted for use with both nose and tail fuzes and igniters, and an initiator is installed between the suspension lugs. An igniter cavity for the igniter/fuze assembly at each end of the bomb is enclosed by removable nose and tail end caps. Electrical cables internally installed in the bomb provide for electrical connection of the initiator and the igniter fuzes. The AN/M23A1 igniter and the FMU-7/B, A/B, B/B, or C/B electrical fuzes (which are interchangeable) are used with the bomb.

The BLU-1B/B bomb is externally identical to the BLU-1/B, except that the BLU-1B/B has an initiator adapter nut over the initiator well and has higher suspension lugs. The BLU-1C/B bomb is identical to the BLU-1B/B, except that the aft bulkhead has been reversed to allow the option of replacing the end cap on the tail of the bomb with a fin assembly after the bomb has been filled. BLU-27/B, A/B, B/B, and C/B bombs are welded one-piece versions of the BLU-1B/B and are assembled and filled at the factory. The BLU-27A/B is similar in construction to the BLU-27/B except that it is painted olive drab in color, has a 3-inch red band around each end, and has external arming wire guides. The BLU-27B/B is identical to the BLU-27A/B except that the arming wire guides are larger. The BLU-27C/B is identical to the BLU-27B/B except that the BLU-27C/B has removable suspension lugs.

BLU-1 AND BLU-27 SERIES FIRE BOMBS



CHARACTERISTICS	BLU-1/B,B/B,C/B F	BLU-1/B,B/B,C/B U	BLU-27/B F	BLU-27/B U	BLU-27A/B,B/B,C/B F	BLU-27A/B,B/B,C/B U
WEIGHT (LB)	717	702	854	839	797	782
LENGTH (IN)	144	130	144	130	144	130
DIAMETER (IN)	18.5	18.5	18.5	18.5	18.5	18.5
INCENDIARY FILLER (GAL)	100	100	100	100	100	100
FIN SPAN (IN)	24	—	24	—	24	—
FIN ASSEMBLY	*	—	*	—	*	—
SUSPENSION LUG SPACING (IN)	14	14	14	14	14	14
STATION COMPATIBILITY	ALL PYLONS		ALL PYLONS		ALL PYLONS	
FUZES	SEE WEAPON-FUZE COMPATIBILITY CHART.					
CARRIAGE/RELEASE/JETTISON LIMITS	REFER TO FLIGHT MANUAL.					

* MXU-393/B OR MXU-469/B

F-FINNED U-UNFINNED

F-5 34-44(1)B

Figure 1-46.

BLU-32 SERIES

The BLU-32A/B, B/B, and C/B (figure 1-47) are welded, factory prefilled 500-pound class fire bombs. They have reinforced areas to permit swaybracing and forced ejection. Each bomb consists of three major sections: nose, center, and tail. A tail end cap or fin may be used. Each bomb is configured for fuzing with an electrical system. The bombs are painted olive drab color with a 3-inch red band around each end. The BLU-32A/B has four external arming wire guides, 1/8-inch diameter by 4 inches long. However, these guides are not compatible with any fuze system. The BLU-32B/B is identical to the BLU-32A/B except the arming wire guides are 5/8-inch diameter by 5/8-inch long. The BLU-32C/B is identical to the BLU-32B/B except the BLU-32C/B has removable suspension lugs.

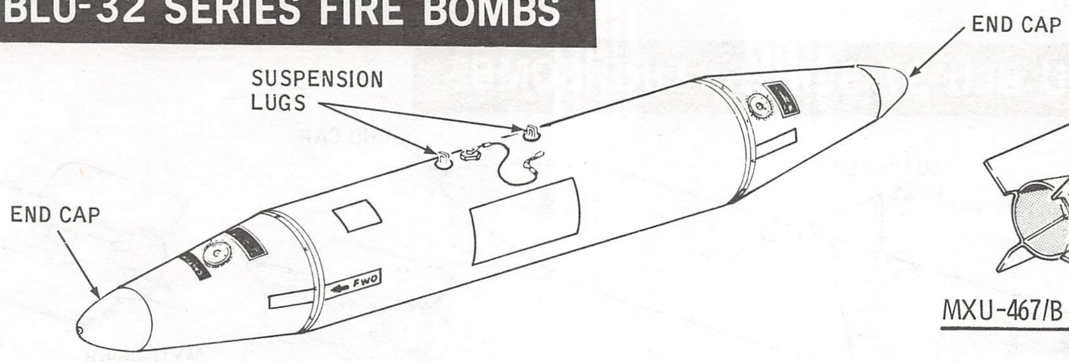
ARMING

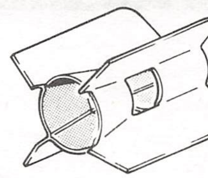
The BLU-1, -27, and -32 fire bombs are armed by selection of the NOSE & TAIL position of the bombs arm switch, which controls the center arming solenoid in the pylon and determines whether the initiator arming lanyard is released or retained with the pylon. Early production fuze systems have an arming delay which precludes arming when the bomb is released from an altitude of 50 feet or less. The arming delay of later production fuze systems has been shortened to enable the fuze system to arm the bomb before impact when released from an altitude of 30 feet or greater.

FIRE BOMB FIN ASSEMBLIES

The MXU-393/B and MXU-469/B fin assemblies are designed for use with the BLU-1 and BLU-27 series fire bombs to stabilize the bomb in flight. Each fin assembly is made of alumi-

BLU-32 SERIES FIRE BOMBS





MXU-467/B FIN ASSEMBLY

CHARACTERISTICS	BLU-32A/B, B/B, C/B FINNED	BLU-32A/B, B/B, C/B UNFINNED
WEIGHT	597 LB	582 LB
LENGTH	137 IN	119 IN
DIAMETER	16 IN	16 IN
INCENDIARY FILLER	78 GAL	78 GAL
FIN SPAN	21 IN	—
FIN ASSEMBLY	MXU-467/B	—
SUSPENSION LUG SPACING	14 IN	14 IN
STATION COMPATIBILITY	ALL PYLONS	ALL PYLONS
FUZES	SEE WEAPON-FUZE COMPATIBILITY CHART.	
CARRIAGE/RELEASE/JETTISON LIMITS	REFER TO FLIGHT MANUAL.	

F-5 34-37(1)B

Figure 1-47.

num and consists of four fin blades and a supporting structure. The fin assembly must be mounted in the X-configuration. The assembly adds approximately 18 inches to the bomb length. The fin assemblies are interchangeable on the two fire bombs. The MXU-467/B fin is used on the BLU-32 series of bombs.

OPERATION

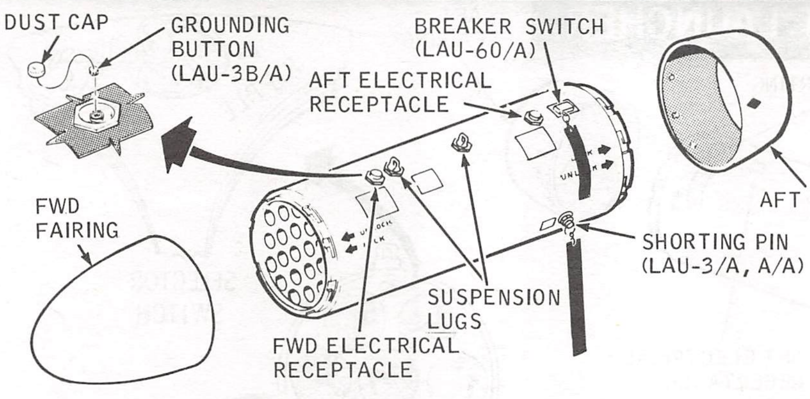
Operation commences as the fire bomb is force-ejected from the pylon, extracting the arming lanyard from the initiator. This permits a firing pin to fire a thermal battery and electrically arm the fuzes. Upon bomb impact, the fuzes function, bursting the igniter. White phosphorus from the igniter causes immediate ignition of the splattered fuel from the ruptured tank.

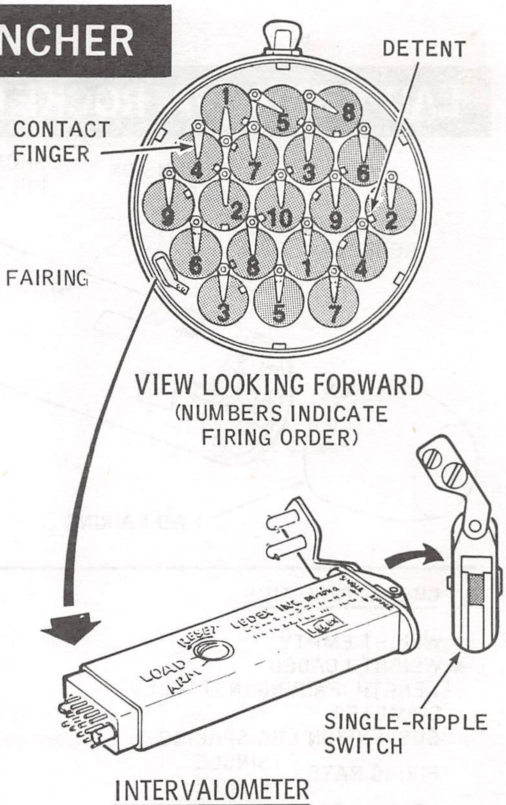
ROCKET LAUNCHERS

LAU-3 AND LAU-60

The LAU-3/A, A/A, B/A, and -60/A rocket launchers (figure 1-48) are expendable items capable of being loaded with nineteen 2.75-inch folding fin aircraft rockets. The launcher consists of the center section with streamlining fairings installed and locked onto the forward and aft ends. The front fairing shatters upon rocket impact. The aft fairing funnels rocket debris away from the aircraft. The center section is constructed of 19 impregnated paper tubes clustered and bonded together to form an integral part of the structure and wrapped with a thin aluminum outer skin. Detents within the tubes restrain the rockets against normal flight loads and provide electrical contact to ignite the rockets. Ground contacts on the aft bulkhead complete the electrical firing cir-

LAU-3/A, A/A, B/A, -60/A ROCKET LAUNCHER





CHARACTERISTICS

WEIGHT EMPTY	74.0 LB
* WEIGHT LOADED	469.0 LB
LENGTH (FAIRINGS INSTALLED)	77.0 IN
DIAMETER	15.5 IN
SUSPENSION LUG SPACING	14.0 IN
FIRING RATE — SINGLE	2 EACH FIRING SIGNAL.
FIRING RATE — RIPPLE	17,20 OR 60±3-MILLISECOND INTERVAL BETWEEN EACH 2.
STATION COMPATIBILITY	INBD AND OUTBD PYLONS
CARRIAGE/EMPLOYMENT/JETTISON LIMITS	REFER TO FLIGHT MANUAL.

* MAY VARY DEPENDING ON WARHEAD AND FUZES USED.

F-5 34-47(1)A

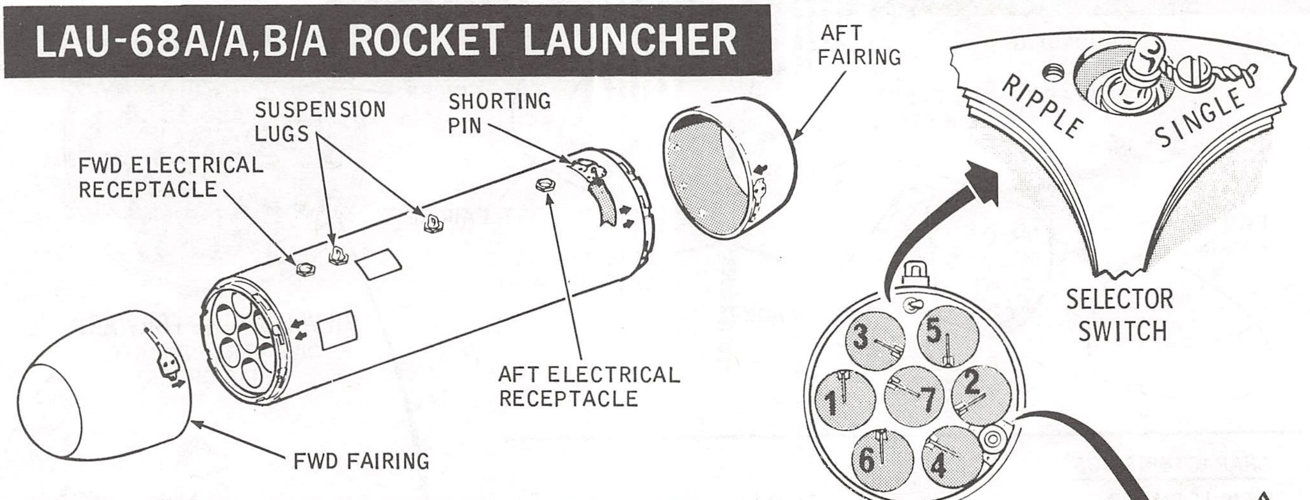
Figure 1-48.

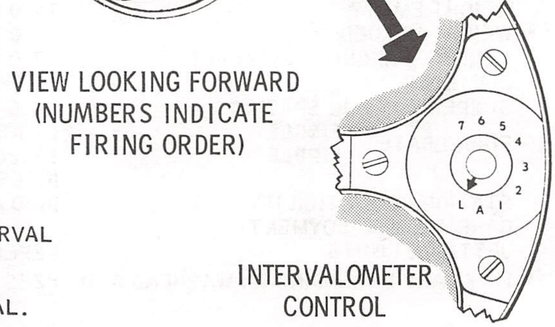
cuit thru the rocket. Two electrical receptacles on top of the center section are wired in parallel. Electrical power for the rocket ignition system is supplied to the launcher by the armament circuit of the aircraft. The firing of the 19 rockets is controlled by an electromechanical intervalometer. The intervalometer fires two rockets on each impulse or, in ripple mode, fires each pair with a predetermined interval between firing impulses. Selection for single or ripple must be made before takeoff. A grounding button inserted in the forward electrical receptacle is used to safe the LAU-3B/A launcher. On the LAU-3/A and A/A, a shorting pin inserted in the left side of the launcher safes the firing circuit. The LAU-60/A contains a breaker switch on the top of the launcher aft of the aft electrical receptacle. When the detent pin is inserted into the breaker switch, the firing circuit is in a safe condition. Safety devices (shorting pin, grounding button or detent pin) must be removed before flight.

LAU-68A/A, B/A

The LAU-68A/A, B/A launchers (figure 1-49) are capable of being loaded with seven 2.75-inch folding fin aircraft rockets. The launcher consists of the center section with streamlining fairings installed and locked onto the forward and aft ends. The front fairing shatters upon rocket impact. The aft fairing funnels rocket debris away from the aircraft. The center section is constructed of seven metal tubes clustered and bonded together to form an integral part of the structure and strapped with a thin aluminum outer skin. Detents within the tubes restrain the rocket against normal flight loads. Ignition voltage is applied by the firing contacts on the aft end of the launcher. There are two electrical receptacles on top of the center section. Electrical power for the rocket ignition system is supplied to the launcher by the armament circuit of the aircraft. The intervalometer can be set to fire the rockets in either single or in ripple mode. In ripple mode, the rockets fire at 60-millisecond intervals between firing

LAU-68A/A,B/A ROCKET LAUNCHER





CHARACTERISTICS

WEIGHT EMPTY	71.0 LB
* WEIGHT LOADED	215.0 LB
LENGTH (FAIRING INSTALLED)	72.6 IN
DIAMETER	9.8 IN
SUSPENSION LUG SPACING	14.0 IN
FIRING RATE SINGLE	1 EACH FIRING SIGNAL
FIRING RATE RIPPLE	60±6-MILLISECOND INTERVAL
STATION COMPATIBILITY	INBD & OUTBD PYLONS
CARRIAGE/EMPLOYMENT/JETTISON LIMITS	REFER TO FLIGHT MANUAL.

* MAY VARY DEPENDING ON WARHEAD AND FUZES USED.

F-5 34-48(1)A

Figure 1-49.

impulses. Selection for single or ripple must be made before takeoff. The firing circuit of the launcher can be safed by a shorting pin on the top of the launcher. The launcher aft receptacle is connected electrically to the aircraft armament system by a connector.

2.75-INCH FOLDING FIN AIRCRAFT ROCKET (FFAR)

The 2.75-inch FFAR (figure 1-50) is used to deliver a variety of warheads on ground targets. The rockets are used against personnel, shipping, tanks, armored fortifications, and equipment of all types. The complete round consists of a motor, warhead, and fuze. Rocket motors used are MK4 and MK40.

WARNING

The MK40 motor shall not be fired from the LAU-3 or LAU-60 launcher.

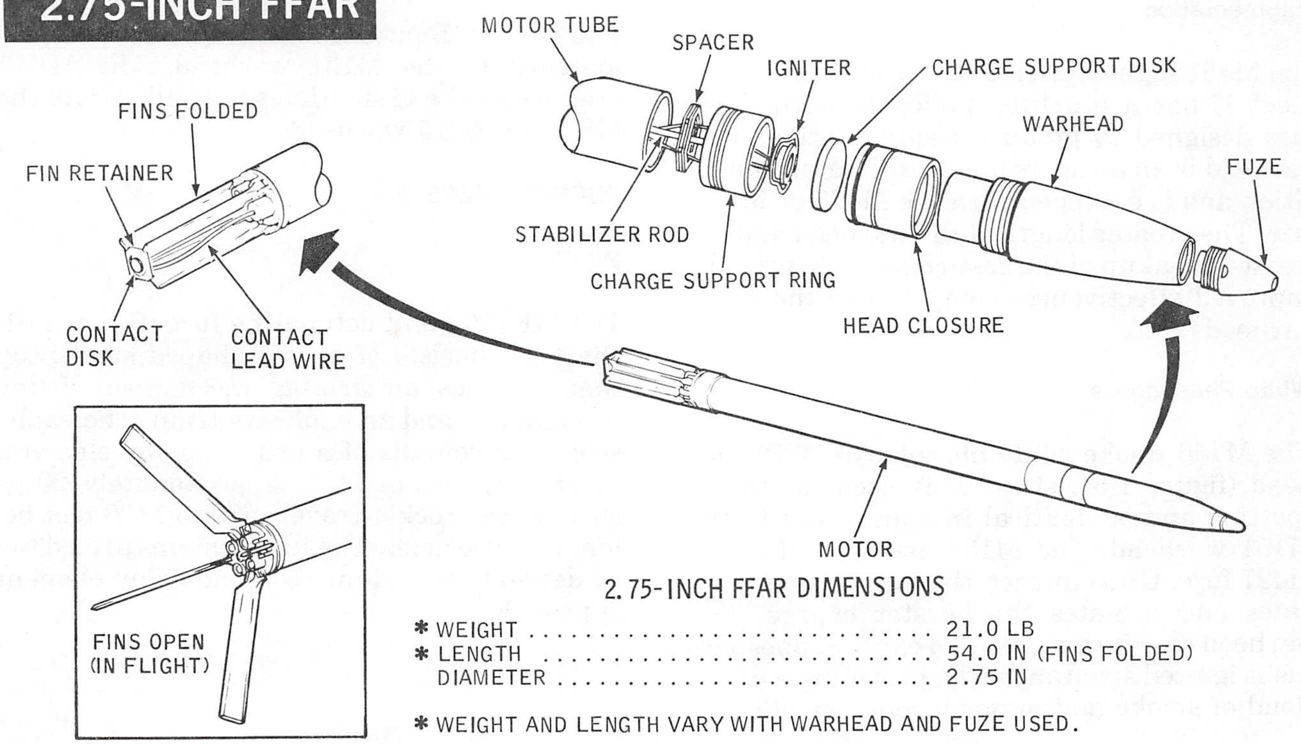
ROCKET MOTOR ASSEMBLY

The motor tube is made of seamless aluminum alloy tubing and is 32 inches long. The propellant used is an internal-burning grain ballistite, which builds up to a maximum peak pressure of approximately 930 pounds of thrust when the rocket is fired. The burning time of the propellant varies with the temperature, from 2.92 seconds at -50°F to 1.42 seconds at 130°F. The external surface of the grain is covered to prevent the grain from burning on the outside. The rocket motor is ignited by aircraft electrical power thru an igniter. Peak velocity of the rocket at motor burnout is approximately 2300 fps. An electrical squib ignites the mixture of black powder and magnesium powder in the igniter.

Rocket Nozzle and Fin Assembly

The nozzle and fin assembly attached to the aft end of the motor tube consists of a nozzle plate, four nozzles, a fin actuating mechanism, four folding fins, and a fin retainer and contact disk.

2.75-INCH FFAR



2.75-INCH FFAR DIMENSIONS

* WEIGHT	21.0 LB
* LENGTH	54.0 IN (FINS FOLDED)
DIAMETER	2.75 IN

* WEIGHT AND LENGTH VARY WITH WARHEAD AND FUZE USED.

F-5 34-45(1)A

Figure 1-50.

Gas pressure from the motor operates a piston and crosshead, pushing the heels of the fins and causing the fins to open. The crosshead remains in its rearmost position, locking the extended fins against the force exerted by the airstream. The fins are shaped aluminum alloy plates, 6.5 inches long and 1.25 inches wide. When folded, they extend to the rear within the 2.75-inch diameter of the round. The MK40 motor has scarfed nozzles that increase stability by causing rotation of the rocket in flight.

WARHEADS

High Explosive

The MK1 high-explosive (HE) head (figure 1-51, sheet 1), may be used with the MK176, MK178, M423 or M427 fuze. The head is loaded with HBX-1 high-explosive for blast, fragmentation, mining, or demolition effects. Installation of the MK-176 or MK-178 fuzes allows the warhead to penetrate for internal blast, whereas the M423 or M427 fuze provides a surface burst, thereby increasing fragmentation effects.

Fragmentation

The M151 high-explosive warhead (figure 1-51, sheet 1) has a pearlite, malleable iron (PMI) case designed to produce fragmentation. The warhead is an antipersonnel/antimaterial munition and is equipped with the M423 or M427 fuze. The greater length of the warhead and increased breakup of the case combine to provide improved effectiveness compared to the MK1 warhead.

White Phosphorus

The M156 smoke white phosphorus (WP) warhead (figure 1-51, sheet 1) is used for target spotting and is identical in appearance to the M151 warhead. The M156 uses the M423 or M427 fuze. Upon impact, the fuze booster detonates and initiates the burster charge. The warhead case is ruptured and exposed phosphorus is ignited spontaneously, providing a dense cloud of smoke and minor incendiary effect.

High-Explosive Antitank

The MK5 high-explosive antitank (HEAT) head (figure 1-51, sheet 2) uses the MK181 fuze. The head is constructed with a shaped charge for penetration of armor.

Flechette

The WDU-4A/A antipersonnel flechette warhead (figure 1-51, sheet 2) contains 2,200 flechettes. The warhead has a base fuze, ejecting charge, piston, and an aerodynamic nose cone, and contains a red dye marker to provide visual identification of warhead functioning. The fuze is installed during assembly and is an integral part of the warhead. After launch, an airburst is initiated, the nose cone is ejected, and the flechettes follow the nose cone. The flechettes are packed with alternating flechettes pointing fore and aft. Aerodynamic force causes the tail-forward flechettes to tumble and streamline after ejection. This weather cocking causes dispersion. Slant range determines dispersion and weapon effectiveness.

Practice

The WTU-1/B practice warhead is ballistically matched to the M151 warhead. The MK61 practice warhead simulates the ballistics of the MK1 and MK5 warheads.

ROCKET FUZES

MK176

The MK176 point-detonating fuze (figure 1-51, sheet 1) consists of a cone-shaped steel body that encloses an arming mechanism, firing mechanism, and an explosive train. The explosive train consists of a primer, delay element, detonator, and booster. Approximately 20 gs ensures the rocket travels 500 to 1400 feet before the fuze arms. The fuze remains armed until detonation. A 4-microsecond delay element is provided.

2.75-INCH FFAR WARHEADS AND FUZES

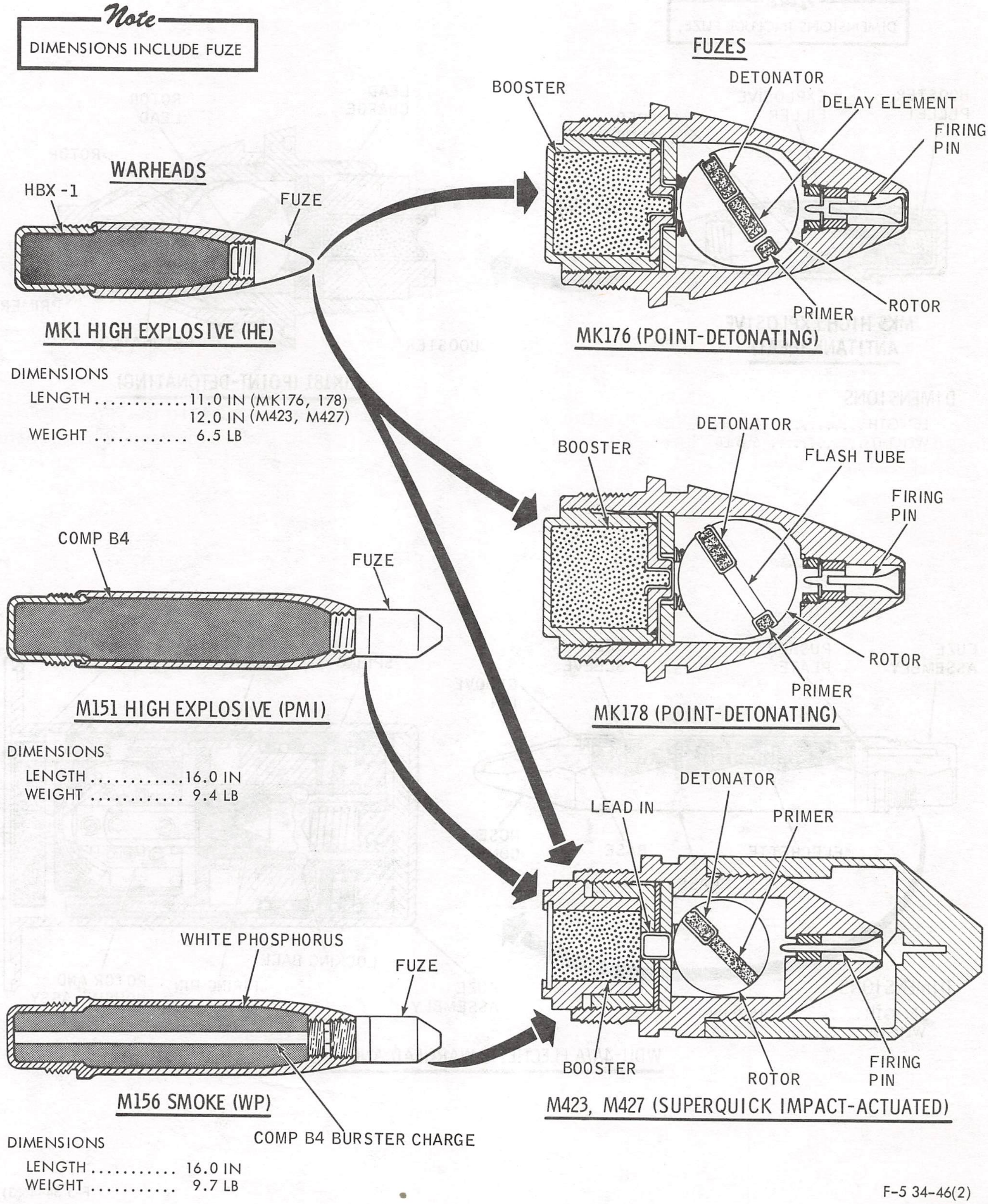
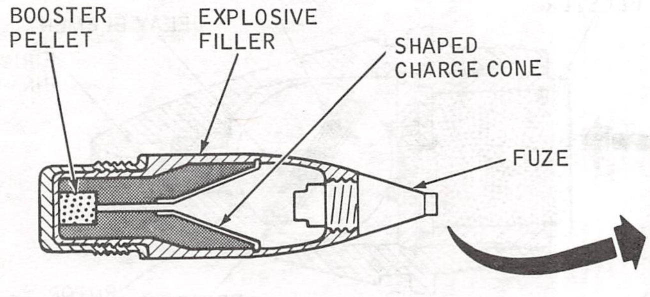


Figure 1-51. (Sheet 1)

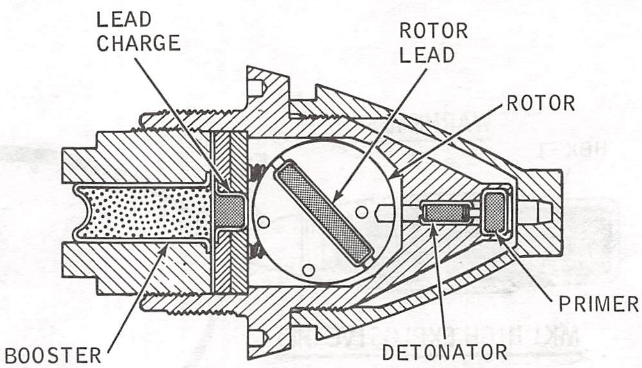
2.75-INCH FFAR WARHEADS AND FUZES (CONTD)

Note

DIMENSIONS INCLUDE FUZE.



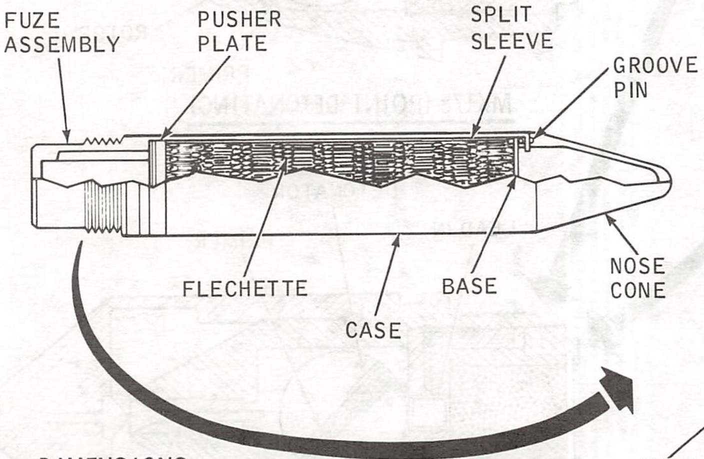
MK5 HIGH EXPLOSIVE ANTITANK (HEAT)

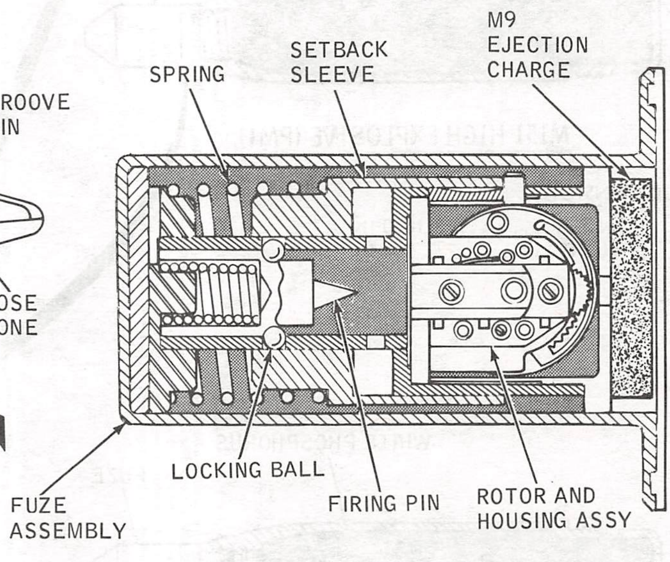


MK181 (POINT-DETONATING)

DIMENSIONS

LENGTH ....11.1 IN
WEIGHT .... 6.6 LB





DIMENSIONS

LENGTH ....18.0 IN
WEIGHT .... 9.3 LB

WDU-4A/A FLECHETTE WARHEAD AND FUZE

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Figure 1-51. (Sheet 2)

MK178

The MK178 (figure 1-51, sheet 1) is similar to the MK176 fuze except that the delay element between the primer and detonator has been replaced by a flash tube to reduce fuze function time.

M423 and M427

The M423, M427 superquick-action, impact-actuated fuze (figure 1-51, sheet 1) provides warhead detonation above ground to increase the fragmentation produced by the MK1, M151 or M156 warhead. The fuze consists of an inertial arming device, mechanical firing mechanism, and an explosive train consisting of a primer, detonator, lead-in, and booster. The fuze is detonator-safe requiring 20 gs for approximately 1 second to complete the arming sequence. This provides 500 to 1200 feet of safe rocket travel for the warhead to arm. The fuze functions instantaneously, without ricocheting off hard ground or burying in soft mud or water, and at low impact angles (approximately 3 degrees). The M423 fuze has a shorter arming time than the M427.

MK181

The MK181 point-detonating fuze (figure 1-51, sheet 2) consists of an arming device, fuzing mechanism, and a shaped-charge booster. The booster directs a jet stream of hot gas into the shaped-charge cone of the warhead. The arming mechanism is similar to the MK176/178 fuze arming mechanisms. Approximaely 20 gs ensures the rocket travels 400 to 1400 feet before the fuze arms.

WDU-4A/A (Flechette)

The fuze used in the WDU-4A/A (figure 1-51, sheet 2) consists of an acceleration-actuated arming mechanism, a deceleration-actuated spring-loaded firing mechanism, a percussion primer, and an explosive charge. When the rocket is fired, inertial acceleration forces free the fuze arming rotor. The unbalanced rotor turns to the armed position and is locked in place. The primer is in line with the firing mechanism, and the fuzing mechanism is armed. At deceleration thru 11 g, the firing pin strikes the primer. The primer initiates the explosive charge behind the pusher plate of the warhead. Pressure resulting from the exploding charge shears the warhead nose retaining pins and the flechettes are expelled.

FLARE DISPENSERS AND FLARES

DISPENSERS

The SUU-25 series reusable flare dispensers (figure 1-52) are capable of dispensing eight illumination or target marker flares. The dispenser is constructed of four metal tubes enclosed by an outer skin with a bulkhead at each end. Reinforced areas on top of the dispenser permit swaybracing and forced ejection. Two electrical receptacles on top of the dispenser, in line with the suspension lugs, connect the dispenser to the aircraft weapon release electrical system.

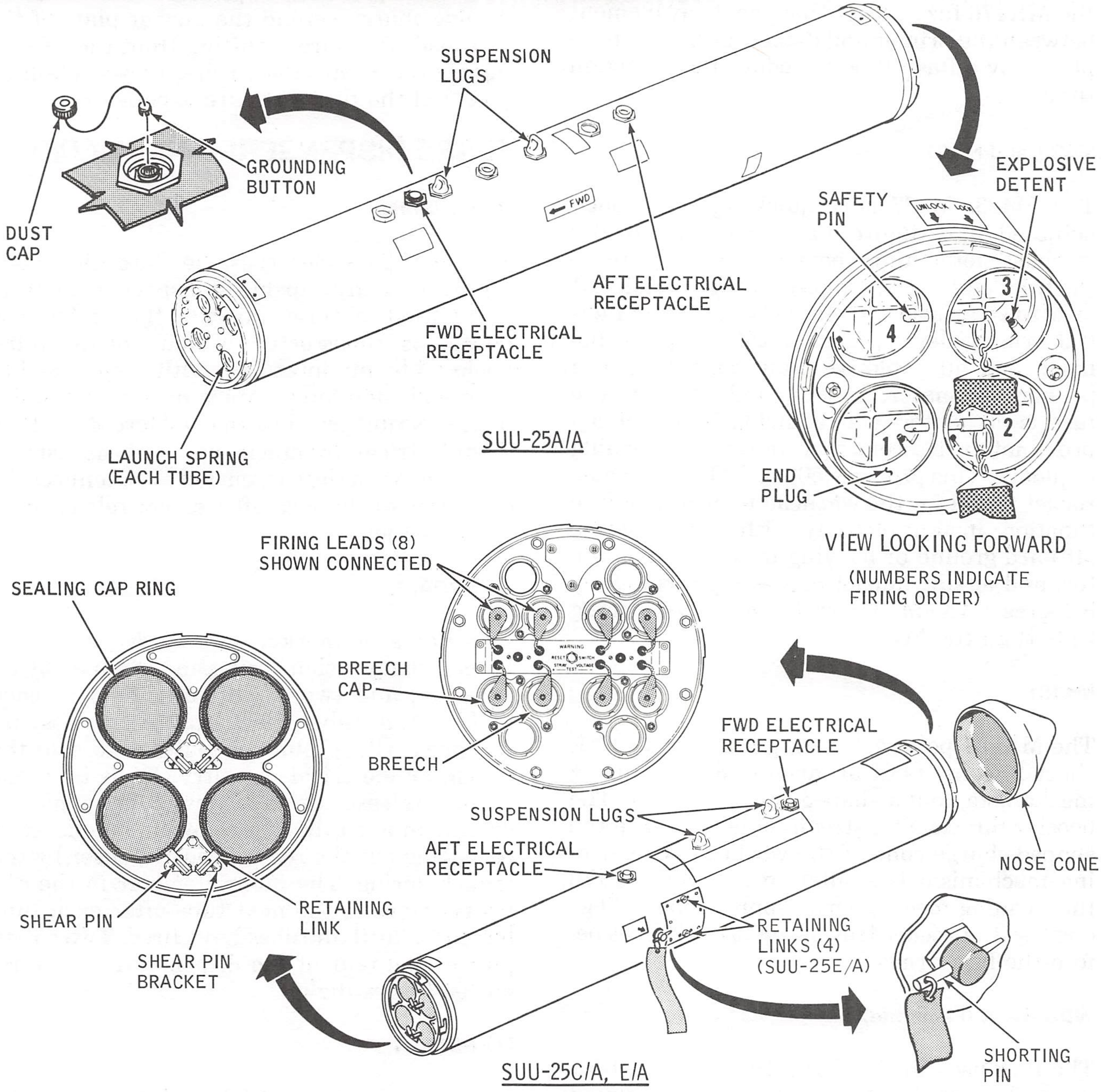
SUU-25A/A

Two flares or markers are loaded against a launch compression spring and retained by an end plug and two explosive detents in each SUU-25A/A tube. Electrical receptacles are equipped with grounding buttons to safe the dispenser electrical circuitry. Each time the weapon release button is pressed, the explosive detents in one tube fire, allowing two flares to be ejected out the rear of the dispenser by the launch spring. The intervalometer in the dispenser steps to the next tube after each tube has fired until all tubes have fired. Two safety pins at the rear of the dispenser must be removed before flight.

SUU-25C/A

An intervalometer and breeches are on the SUU-25C/A forward bulkhead. A nose cone is installed on the forward end for protection. The cover also aids the dispenser aerodynamically. The intervalometer sequences the dispensing of one munition at a time. If the aft flare/marker fails its launching sequence, the forward flare/marker firing sequence purges

SUU-25A/A, C/A, E/A FLARE DISPENSER



CHARACTERISTICS	SUU-25A/A	SUU-25C/A, E/A
WEIGHT EMPTY	160 LB	262.0 LB
* WEIGHT LOADED	400 LB	497.0 LB
LENGTH (NOSE CONE INSTALLED)	96 IN	96.0 IN
DIAMETER	14 IN	14.0 IN
SUSPENSION LUG SPACING	14 IN	14.0 IN
FIRING RATE	1 TUBE (2 FLARES) EACH FIRING SIGNAL	1 FLARE EACH FIRING SIGNAL
STATION COMPATIBILITY	OUTBD PYLON	OUTBD PYLONS
CARRIAGE/EMPLOYMENT/JETTISON LIMITS	REFER TO FLIGHT MANUAL.	REFER TO FLIGHT MANUAL.

* MAY VARY DEPENDING ON TYPE FLARES/MARKERS LOADED

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Figure 1-52.

the tube, launching both munitions together. A shorting pin on the right side of the dispenser electrically safes the dispenser. At the aft end of the dispenser in each tube, the bottom end of the flare/marker can be seen with a blue colored sealing cap ring installed around the flare/marker. An L-shaped retaining link is positioned against the sealing cap ring with a shear pin inserted thru the retaining ring and bracket.

SUU-25E/A

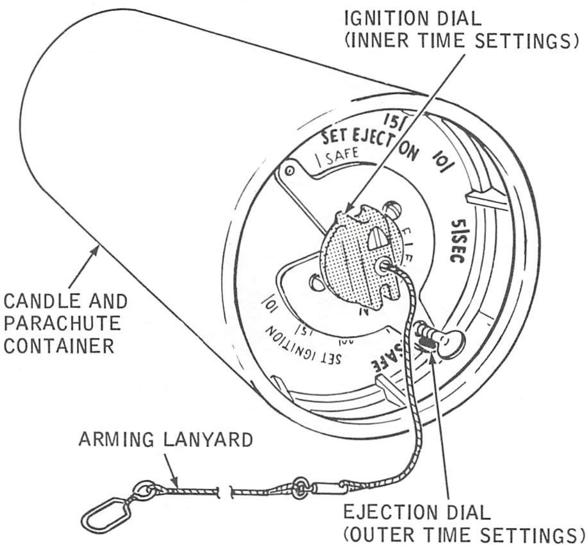
The SUU-25E/A flare dispenser is identical to the SUU-25C/A dispenser except the SUU-25E/A forward shear pins (retaining links) are visible. This allows visual confirmation the forward flares are properly secured.

FLARES

MK-24 Parachute Flare

The MK-24 parachute flare (figure 1-53) is a delay type illuminating device. Both deployment of the parachute (ejection) after launch and ignition of the illuminating candle after chute deployment can be selectively delayed. The ejection and ignition fuze times of each flare are set by the loading crew before loading the flares into the dispenser. Ejection time delays of 5, 10, 15, 20, 25, and 30 seconds may be selected. Five ignition time delay settings of 5 seconds each, beginning 10 seconds after chute deployment, may be selected. An outer aluminum container houses an ejection fuze, ignition fuze, lanyard, parachute and candle (illuminating composition). The flare has a burning time of approximately 180 seconds with an average of 2,000,000 candlepower.

MK-24, LUU-1/B, AND LUU-5/B FLARES



CHARACTERISTICS

WEIGHT	27 LB
LENGTH	36 IN
DIAMETER	4.9 IN

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Figure 1-53.

LUU-1/B and LUU-5/B Target-Marker Flares

The LUU-1/B and LUU-5/B target-marker flares (figure 1-53) are MK-24 Mod 4 illumination flares with a different candle/parachute assembly installed. The candle is designed to burn for 30 minutes on the ground, providing an easily distinguished colored flame. The LUU-1/B burns with a red flame, the LUU-5/B green. The burning surface is on the end connected with the parachute to reduce the chances of snuffing out the flame on ground impact. The parachute is designed to provide a 30-foot-per-second rate of descent and to snag in the top of heavy foliage, making it useful in jungle areas. After flare ignition, the flare has a rate of descent of approximately 15 feet per second.

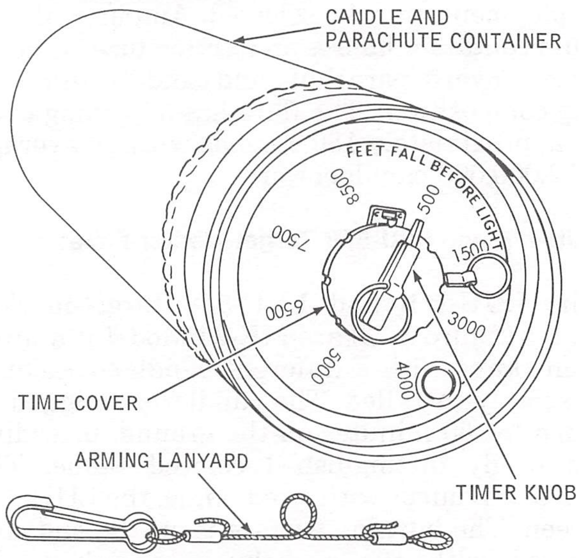
The 5- to 30-second delay ejection fuze and the 10- to 30-second delay ignition fuze from the MK-24 illuminating flare are used for the target-marker flares.

Standard SUU-25A/A, SUU-25C/A, and SUU-25E/A dispensers and procedures are used to release the target-marker flares. The ejection and ignition fuzes must be set before flight. Upon release, the pull of the lanyard ignites the ejection fuze. At the conclusion of the ejection fuze delay, an ejection charge expels the candle and parachute from the outer case. The ejection charge also ignites the ignition fuze delay element, which in turn ignites the candle.

LUU-2/B Flare

The LUU-2/B flare (figure 1-54) is a pyrotechnic illuminating device with a 4.5-minute burn time. The flare is identical to the MK-24 flare in external dimensions.

LUU-2/B FLARE



CHARACTERISTICS

WEIGHT .... 30 LB
LENGTH .... 36 IN
DIAMETER .... 4.9 IN

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Figure 1-54.

Prior to placing the flare into the dispenser, the desired free-fall distance must be set into the timer. The available settings are 500, 1500, 3000, 4000, 5000, 6500, 7500, and 8500 feet. Deployment of the main parachute ignites the flare candle. The flare burns for approximately 270 seconds. At candle burnout, an explosive bolt releases one parachute support cable, causing the parachute to collapse.

NONNUCLEAR WEAPON FUZES

FUZE SELECTION

A fuze is a device used to initiate a detonation at the time and under the circumstances desired. Since targets are usually selected in advance of a mission, and the structure of the target indicates the type of fuzing necessary to produce the best results, it is imperative that the correct fuzing system be installed in the weapon. Additionally, many weapons can accommodate a variety of fuzes, which can greatly change the effects. All tactical fighter pilots must be familiar with the classification and operation of fuzes in order to effectively plan the mode of delivery and ensure safe escape from the anticipated weapon effects. Weapon-fuze compatibility is listed in figure 1-55.

WARNING

Improper employment of a weapon-fuze combination may result in serious damage to the aircraft or injury to the pilot.

CLASSIFICATION OF BOMB FUZES

Bomb fuzes are classified by position in the bomb and means of functioning (action) (figure 1-56).

POSITION

Fuzes are installed in the nose and/or tail of the bomb. Nose and tail fuzes usually are not interchangeable because of differences in arming devices and internal operation.

MEANS OF FUNCTIONING

Fuzes are classified according to the method of detonation:

a. Time — A predetermined number of seconds after release.

b. Proximity — Nearness of the target.

c. Impact — Impact of the fuze with the target.

d. Hydrostatic — Water pressure.

METHODS OF ARMING

Fuzes are armed in one (or a combination) of four methods:

a. Vane: The arming-vane type fuze has a vane (propeller or anemometer) which is rotated after release by air flowing past the falling bomb. When the vane has rotated the required number of times, the fuze is armed.

b. Pin: The arming-pin type fuze has a pin or plunger which is ejected or withdrawn by spring action when the bomb is released. The ejection of the pin releases the arming mechanism and allows the fuze to arm.

c. Inertia: The inertia-arming type fuze is armed by an abrupt change in the velocity of the falling bomb (such as at impact).

d. Electric: The electric-arming type fuze is armed by a thermal battery which is activated at bomb release by the extraction of an arming lanyard.

ARMING TIME INTERVAL

Both arming-pin and arming-vane type fuzes are further classified according to the arming time interval, either direct-arming or delayed-arming.

a. Direct-Arming: A direct-arming fuze is armed immediately when the arming pin is ejected or when the arming vane has rotated the required number of revolutions.

b. Delayed-Arming: The delayed-arming fuze has an arming pin or arming vane which operates as in the direct-arming fuze, but instead of arming the fuze directly, the mechanism controlled by the pin or vane initiates a power train or clockwork mechanism which arms the fuze after a predetermined time has lapsed.

WEAPON-FUZE COMPATIBILITY

FUZE	TYPE		FUNCTIONAL DELAY	ARMING DELAY	WEAPONS
	NOSE	TAIL			
M147A1	X		AIRBURST SELECTABLE 5 TO 92 SECONDS IN 0.5-SECOND INCREMENTS	4.5 SECONDS AFTER RELEASE (±1.5 SECONDS TOLERANCE)	M129E2
M904E1 M904E2 M904E3	X X X		SELECTIVE WITH DELAY ELEMENTS M9, INSTANTANEOUS 0.01, 0.025, 0.05 0.10, AND 0.25-SECOND DELAY	904E1; SELECTABLE DELAY TIMES OF 4, 6, 8, 12, 16, AND 20 SECONDS (±20% TOLERANCE) 904E2 AND 904E3; SELECTABLE DELAY TIMES OF 2, 4, 6, 8, 10, 12, 14, 16, AND 18 SECONDS (±10% TOLERANCE)	MK-82 MK-83 MK-84 M117
				MK-82 SE COMPATIBLE WITH M904E2 AND M904E3	MK-82 SE
M905		X	SELECTIVE WITH DELAY ELEMENTS M9, INSTANTANEOUS, 0.01, 0.025, 0.05, 0.10, AND 0.25-SECOND DELAY	SELECTABLE DELAY TIME OF 4, 6, 8, 12, 16, AND 20 SECONDS (±20% TOLERANCE)	MK-82 MK-83 MK-84 M117 GBU-10F/B GBU-12E/B
M907	X		AIRBURST – SELECTABLE 4 TO 92 SECONDS IN 0.5-SECOND INCREMENTS (±1.0 SECOND TOLERANCE)	ARMING TIME IS 1/2 THE FUNCTIONING TIME	CBU-24B/B CBU-49B/B CBU-52B/B CBU-58/B, A/B CBU-71/B, A/B
FMU-7 SERIES	X	X	ELECTRICAL IMPACT – INSTANTANEOUS	0.6 SECOND	BLU-1 SERIES BLU-27 SERIES BLU-32 SERIES
FMU-26A/B FMU-26B/B	X		AIRBURST OCCURS 0.1 SECOND AFTER ARMING	AIRBURST-SELECTABLE 1.9 TO 99.9 SECONDS IN 0.5-SECOND INCREMENTS (±0.3-SECOND TOLERANCE)	CBU-24B/B CBU-49B/B CBU-52B/B CBU-58/B, A/B CBU-71/B, A/B
FMU-26B/B	X	X	IMPACT SHORT DELAY; SELECTABLE, NONEDELAY, 0.01, 0.02, 0.05, 0.10, 0.25 SECOND (±10% OR 0.002 WHICHEVER IS GREATER TOLERANCE)	IMPACT SHORT DELAY – SELECTABLE 2.0 TO 20.0 SECONDS IN 2.0-SECOND INCREMENTS (±0.3 SECOND TOLERANCE)	MK-82 MK-83 MK-84 M117 GBU-10F/B GBU-12E/B
(1) FMU-54/B		X	IMPACT INSTANTANEOUS	(2) ARMING DELAY SELECTABLE 0.75 TO 3.50 SECONDS IN 0.25-SECOND INCREMENTS	MK-82 SE
FMU-56/B	X		AIRBURST SELECTABLE HEIGHT OF BURST (HOB) IN FEET; 0, 250, 500, 800, 1100, 1500, 1800, 2100, 2500, 3000	SELECTABLE TIMES OF 2, 3, 4, 6, 8, 10, 12, 14, AND 18 SECONDS (±10% OR ±0.5 SECOND, WHICHEVER IS GREATER TOLERANCE)	CBU-24B/B CBU-49B/B CBU-52B/B CBU-58/B, A/B CBU-71/B, A/B
FMU-56A/B FMU-56B/B FMU-56D/B	X X X		AIRBURST SELECTABLE HEIGHT OF BURST (HOB) IN FEET; 250, 500, 800, 1100, 1500, 1800, 2000, 2200, 2500, 3000	SELECTABLE TIMES OF 3, 4, 5, 6, 7, 8, 9, 10, AND 18 SECONDS (-56A/B; ±10% OR ±0.5 SECOND, WHICHEVER IS GREATER TOLERANCE)	CBU-24B/B CBU-49B/B CBU-52B/B CBU-58/B, A/B CBU-71/B, A/B
FMU-72/B	X	X	ELECTRICAL-LONG DELAY SELECTABLE, 20 MINUTES TO 36 HOURS	6.0 SECONDS AFTER RELEASE (+1.5/-1.0 SECOND TOLERANCE)	MK-82 MK-83 MK-84
FMU-81/B	X	X	INPACT SHORT DELAY; SELECTABLE, NONE DELAY, 0.01, 0.02, 0.05, 0.10, OR 0.25 SECOND	SELECTABLE DELAY TIME OF 4, 5, 6, 7, 8, 10, 12, 14, AND 20 SECONDS	GBU-10F/B GBU-12E/B

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Figure 1-55. (Sheet 1)

WEAPON-FUZE COMPATIBILITY (CONTD)

FUZE	TYPE		FUNCTIONAL DELAY	ARMING DELAY	WEAPONS
	NOSE	TAIL			
FMU-110/B	X		AIRBURST SELECTABLE HEIGHT OF BURST (HOB) IN FEET; 300, 500, 700, 900, 1200, 1500, 1800, 2200, 2600, 3000	SELECTABLE TIMES OF 3,4,5,6, 7,8,9,10 AND 18 SECONDS (±10% OR ±0.5 SECOND, WHICHEVER IS GREATER TOLERANCE)	CBU-24B/B CBU-49B/B CBU-52B/B CBU-58/B,A/B CBU-71/B,A/B
FMU-113/B	X		PROXIMITY 0 TO 25 FEET (15 FEET NOMINAL)	SELECTABLE TIMES OF 5, 6, 7, 8, 9, 10 AND 18 SECONDS (±10% TOLERANCE + 0.5 SECOND)	MK-82 MK-84 M117
MK-30 MOD 0	X		ELECTRICAL	SELECTABLE DELAY TIMES OF 2,4,6,8,10,12,14,16, OR 18 SECONDS	MK-36
MK-32 MOD 1	X		ELECTRICAL	2.16 SECONDS AFTER RELEASE	MK-36
MK176	X		POINT-DETONATING 4-MICROSECOND DELAY	TOLERANCE: 500 FT MIN 1400 FT MAX 20 Gs	MK1 (HE)
M178	X		POINT-DETONATING INSTANTANEOUS	TOLERANCE: 500 FT MIN 1400 FT MAX 20 Gs	MK1 (HE)
M423 M427	X		SUPERQUICK IMPACT-ACTUATED INSTANTANEOUSLY AT LOW IMPACT ANGLE (3 DEGREES)	INERTIALLY ARMED BY SENSING 20 Gs FOR APPROX 1 SECOND TOLERANCE: 500 FT MIN 1200 FT MAX	MK1 (HE) M151 (PMI) M156 (WP)
MK181	X		SHAPED CHARGE BOOSTER ACTIVATED INSTANTANEOUSLY UPON IMPACT POINT-DETONATING	INERTIALLY ARMED BY SENSING 20 Gs TOLERANCE: 400 FT MIN 1400 FT MAX	MK5 (HEAT)
WDU-4A/A	X		DECELERATION THRU 11 Gs	INERTIALLY ARMED	WDU-4A/A
(3) M505A2	X		AN OPTIMUM DISTANCE AFTER IMPACT HAS CRUSHED THE NOSE OF FUZE	CENTRIFUGALLY SPIN ARMED 20 -35 FEET FROM THE MUZZLE OF GUN	M56A2
(3) M505A3	X				M56A3

(1) RECOMMENDED MINIMUM RELEASE AIRSPEED — 350 KIAS

(2) EVEN THOUGH THE FUZE ARMING DELAY MAY BE SET TO A VALUE AS LOW AS 0.75 SECOND, A MINIMUM OF 2.5 SECONDS MUST BE USED TO ASSURE SAFE ESCAPE DURING LOW LEVEL OPERATIONS. THIS REQUIRES A MINIMUM BOMB TIME OF FLIGHT OF 2.8 SECONDS.

(3) SLANT RANGES SUFFICIENT TO PERMIT FLYOVER OF THE FRAGMENTATION CLOUD AT ABOVE 300 FEET AGL ARE MANDATORY.

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Figure 1-55. (Sheet 2)

EXPLOSIVE TRAIN

An explosive train (figure 1-56) controls the functioning of a munition. Such a train is a sequence of explosions in which a small quantity of a very sensitive explosive ultimately sets off a larger quantity of a much less sensitive explosive. The type of explosive used in such large quantities as in the loading of bombs must be relatively insensitive to shock and heat. This provides a reasonable degree of safety in storing, shipping, and handling; allows the bomb to be dropped safely over friendly territory; and permits the bomb to be used to penetrate a resistant target, such as armorplate, thick earth, or concrete before exploding. On the other hand, the type of explosive used in the fuze must be very sensitive to explode when impacted by the firing pin. Such an explosive is not safe to handle except in minute quantities, and therefore, is strongly compressed into a metal capsule which is called a detonator. The booster, a small quantity of explosive which is more sensitive than the main charge, is placed next to the detonator. The booster is sensitive enough to be exploded by the detonator and large enough so that the shock of its explosion explodes the bursting charge of the bomb. Such an arrangement of elements is called the explosive train and is the basic method of operation in all explosive munitions.

TYPES OF EXPLOSIVE TRAINS

The explosive train operation in both nose and tail fuzes may be instantaneous or delayed action:

a. Instantaneous: Instantaneous operation begins immediately upon weapon impact when the firing pin is driven into the detonator. The detonator explodes the booster which relays and amplifies the blast, causing the bursting charge to explode.

b. Delayed action: A delayed action train may be necessary to allow bomb penetration of a target or to permit a low-flying aircraft which carried the bomb to escape from the target area. Two additional components, a primer and a delay element, are placed ahead of the detonator, booster, and main charge. Upon weapon impact, the primer ignites the delay element. The weapon explodes with instantaneous operation at the end of the delaying burn.

SAFETY FEATURES

For safety reasons, a bomb must be incapable of exploding before it is clear of the aircraft. By definition, a fuze is armed when the next normally expected event initiates a function of the fuze. As shipped, fuzes are in a safe (unarmed) condition. To prevent premature or accidental functioning of the fuze, a safety feature is incorporated when manufactured. The most common safety features in fuzes include detonator-safe, arming-stem-safe, and safety-block-safe devices.

DETONATOR-SAFE

A detonator-safe arrangement commonly found in nose fuzes holds one of the explosive train elements out of alignment with the other elements. For example, the detonator may be held out of line with the firing pin until the fuze is armed.

ARMING-STEM-SAFE

A safety feature commonly found in tail fuzes is an arming system which is screwed into the firing pin plunger. In this type of fuze, the detonator is located immediately below the firing pin. Arming of the fuze withdraws the arming stem from the arming pin plunger, thus freeing the plunger. An anticreep spring prevents premature movement of the plunger.

SAFETY BLOCK SAFE

This safety feature, commonly found in nose fuzes, consists of a block between the striker and the fuze body, thus preventing the firing pin from contacting the primer or detonator. The arming vane drives a gear train which, after a definite interval, permits the safety block to be ejected.

BOMB FUZE CLASSIFICATION AND EXPLOSIVE TRAIN

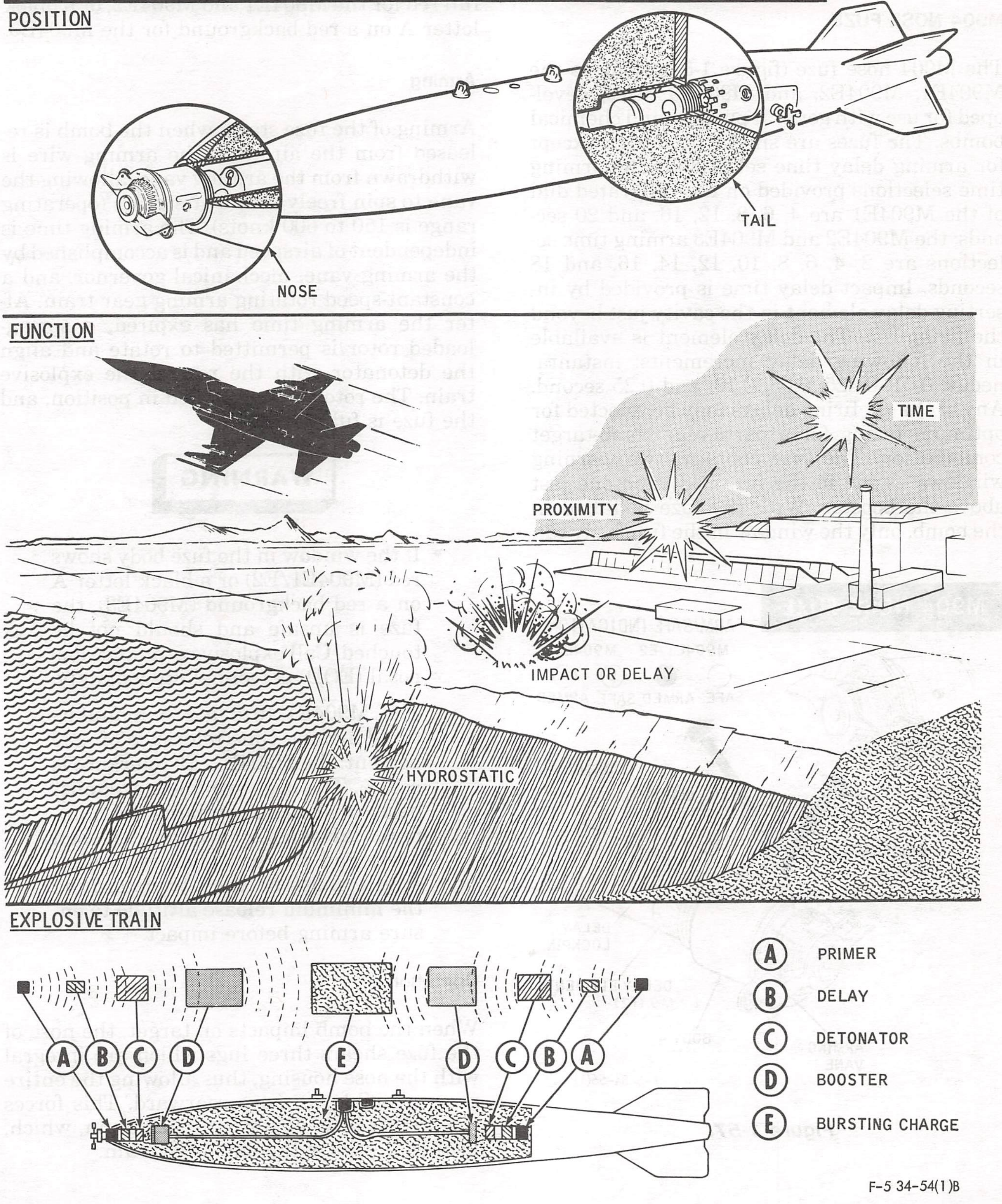


Figure 1-56.

MECHANICAL IMPACT FUZES

M904 NOSE FUZE

The M904 nose fuze (figure 1-57) includes the M904E1, M904E2, and M904E3 fuzes, developed for use with general purpose and chemical bombs. The fuzes are similar in design except for arming delay time selections. The arming time selections provided on the calibrated dial of the M904E1 are 4, 6, 8, 12, 16, and 20 seconds; the M904E2 and M904E3 arming time selections are 2, 4, 6, 8, 10, 12, 14, 16, and 18 seconds. Impact delay time is provided by inserting delay element in the cavity just beyond the firing pin. The delay element is available in the following delay increments: instantaneous, 0.01, 0.025, 0.05, 0.10, and 0.25 second. Any of the six firing delays may be selected for optimum fuzing for a particular bomb-target combination. The fuze contains two warning windows — one in the fuze body and one just above the booster. With the fuze installed in the bomb, only the window in the fuze body can be seen. If the fuze should accidentally become armed, either or both warning windows show full red for the M904E1 and M904E2, or a black letter A on a red background for the M904E3.

M904 NOSE FUZE

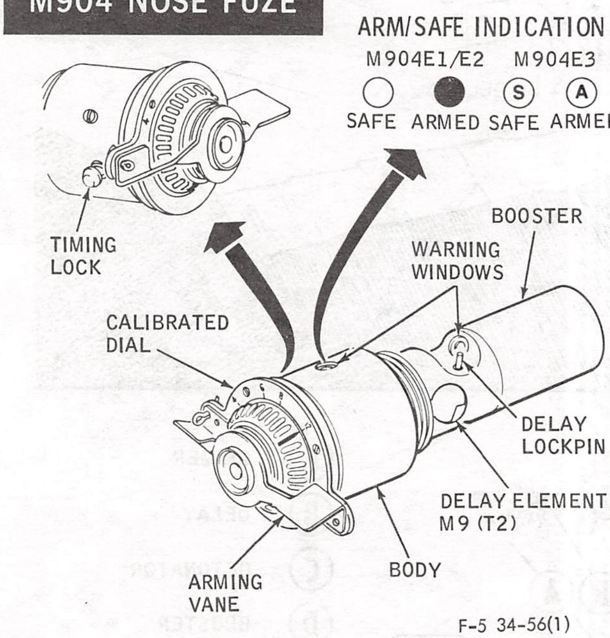


Figure 1-57.

Arming

Arming of the fuze starts when the bomb is released from the aircraft. The arming wire is withdrawn from the arming vane, allowing the vane to spin freely in the airstream (operating range is 150 to 600 knots). The arming time is independent of airspeed and is accomplished by the arming vane, mechanical governor, and a constant-speed rotating arming gear train. After the arming time has expired, a spring-loaded rotor is permitted to rotate and align the detonator with the rest of the explosive train. The rotor is then locked in position, and the fuze is fully armed.

WARNING

- If the window in the fuze body shows red (M904E1/E2) or a black letter A on a red background (M904E3), the fuze is unsafe and should not be touched. Call explosive ordnance disposal (EOD) personnel immediately.
- The M904E1 fuze has a manufactured arming time tolerance of ±20 percent: the M904E2/E3 tolerance is ±10%. The negative tolerance must be used when determining the minimum arming separation between bomb and aircraft. The positive tolerance must be used to determine the minimum release altitude to ensure arming before impact.

Operation

When the bomb impacts on target, the nose of the fuze shears three lugs which are integral with the nose housing, thus allowing the entire nose assembly to move rearward. This forces the striker body against the firing pin, which, in turn, initiates the explosive train.

MK-30 MOD 0 ARMING DEVICE

The MK-30 Mod 0 arming device (figure 1-58) is connected electrically to a firing mechanism in the tail of the MK-36 destructor. The MK-30 Mod 0 arming device was developed by altering the M904E2 nose fuze. An indicator (setting line) on the nose assembly is used in conjunction with a calibrated dial stamped on the vane stop strap for selecting the various arming delay times. When the indicator is rotated to a new arming delay time, the timing lockpin must be depressed to unlock the indicator. For arming times below 6 seconds, the stop screw must be removed.

When the window on the side of the arming device shows full red, the arming device is armed. When a white stripe is visible in the window at 6 and higher seconds to arm, the arming device is unarmed. If a white stripe appears at any other setting, the arming device is partially armed. A safety device is installed thru the arming vane and vane stop strap to prevent the arming vane from rotating.

MK-32 MOD 1 ARMING DEVICE

The MK-32 Mod 1 arming device (figure 1-59) is a mechanical time-delay device that requires both an airstream and an impact in order to arm. The device provides a fixed delay of 2.16 seconds from the time the last arming wire is withdrawn until enabling of the impact mode. The MK-32 differs from the MK-30 arming device in that the MK-32 requires an impact to arm and has a fixed delay of 2.16 seconds. For additional information, refer to T.O. 1F-5E-34-1-1-1.

MK-30 ARMING DEVICE

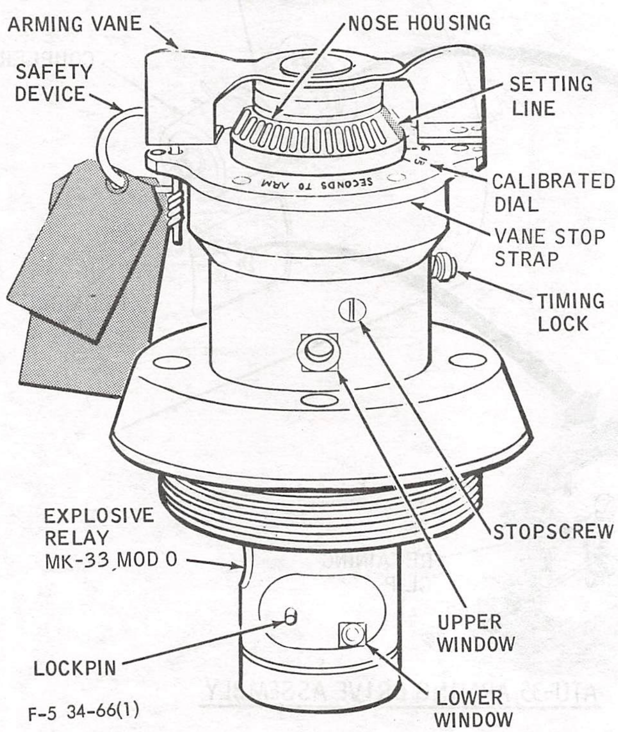


Figure 1-58.

MK-32 ARMING DEVICE

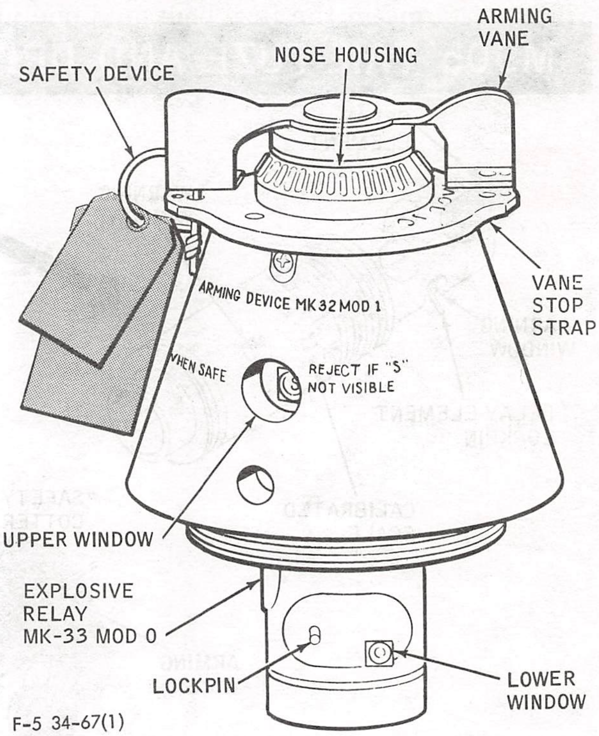


Figure 1-59.

M905 TAIL FUZE

The M905 tail fuze (figure 1-60) is a mechanical impact fuze used with GP bombs. Arming is effected by the ATU-35 series arming drive assembly. The arming time is independent of release airspeed (operating range is 150 to 600 knots); and is accomplished by the arming drive assembly, flexible shaft, mechanical governor, and constant-speed rotating gear train. The desired arming time is set on a calibrated dial with selective delay times of 4, 6, 8, 12, 16 and 20 seconds. Impact functioning (detonation) delay times are provided by inserting a delay element (M9) in the cavity just beyond the firing pin. The delay elements are available in the following delay increments: Instantaneous, 0.01, 0.025, 0.05, 0.10, and 0.25 second. The fuze has one warning window visible in the fuze body. If the fuze is armed, the warning window shows full red. The other window is not visible.

WARNING

- If the window in the fuze body shows full red, the fuze is unsafe and should not be touched. Call explosive ordnance disposal (EOD) personnel immediately.
- This fuze must not be used for skip bombing operations.

ATU-35 Tail Fuze Drive Assembly

The ATU-35 series includes the ATU-35A/B and ATU-35B/B anemometer-vane type drive assemblies used to arm the M905 tail fuze. The drive assembly used on low drag GP bombs is direct-drive with the output speed transmitted to the fuze thru a flexible shaft and coupler. The ATU-35B/B is identical to the ATU-35A/B

M905 TAIL FUZE AND DRIVE ASSEMBLIES

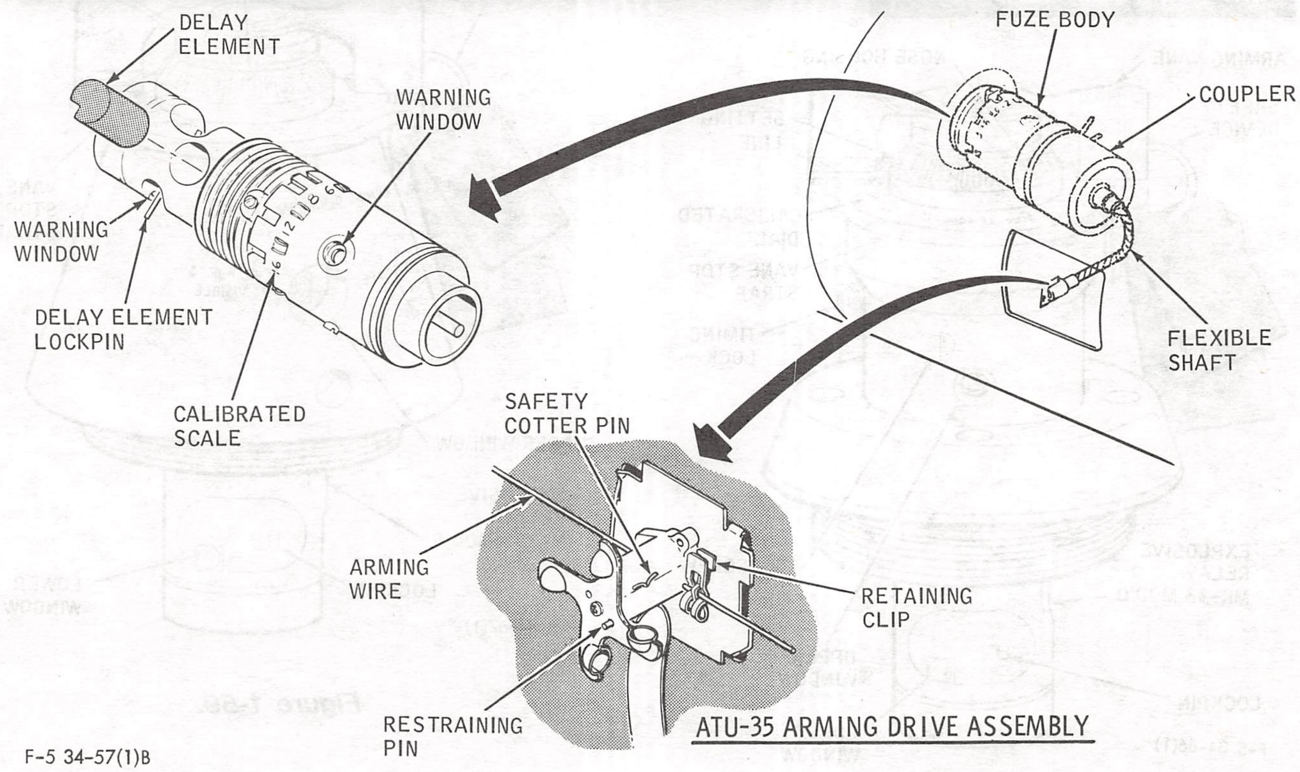


Figure 1-60.

except the ATU-35B/B has an added safety feature which prevents installation of the arming wire or safety cotter pin until the vane restraining pin locks the vane.

Arming

Arming of the fuze starts when the bomb is released from the aircraft. The arming wire is withdrawn from the ATU-35 drive assembly, allowing rotation of the anemometer type vane in the airstream. The rotational input to the fuze is by a flexible shaft and coupling directly to the fuze reduction gear train, which is identical to the M904 nose fuze. This governing feature arms the M905 at the same rate the M904 nose fuze arms. After arming time expiration, the firing pin is free to move in the direction of flight upon sufficient deceleration of the fuze. An anticreep spring prevents premature movement of the firing pin due to velocity changes of the bomb during free fall. At approximately the same time that the firing pin arms, the rotor brings the detonator in line with the rest of the explosive train. A detent locks the rotor in the armed position, and the fuze is fully armed.

WARNING

The M905 fuze has a manufactured arming time tolerance of ±20 percent. The negative tolerance of the fuze must be used when determining the minimum separation between weapon and aircraft. The positive tolerance must be used to determine the minimum release altitude to insure arming before impact.

Operation

When the bomb impacts on target, the inertia force generated causes the firing pin assembly to move forward and strike the primer in the delay element, thus initiating the explosive train. The explosive train includes a delay element which gives the same delay times as in the M904 nose fuze.

M907 MECHANICAL TIME FUZE

The M907 (figure 1-61) is a mechanical time nose fuze commonly used for airburst functioning of cluster bombs. The desired function time is set on a calibrated dial on the fuze body. The dial may be set at 1/2-second intervals between 4 and 92 seconds. There is an airburst functioning accuracy of plus or minus 1 second. The arming time is independent of release airspeed (operating range is 100 to 600 knots) and is accomplished by the arming vane, a mechanical governor, and a constant speed rotating gear train. Arming time is automatically determined as one-half the preset time on the calibrated dial when the function time is greater than 10 seconds. For function times of 4 to 10 seconds, arming occurs before functioning but not less than one-half the set time. Safety features include a slider detonator block containing the detonator, which is locked out of line with the rest of the explosive train until arming is completed, and two arming (warning) indicators. One arming indicator is an aluminum foil disc in the lower part of the fuze body. If the pin extends thru the window, the fuze is armed.

WARNING

If the slider has punctured the aluminum foil disc, the fuze is armed. Do not touch the fuze. Call explosive ordnance disposal (EOD) personnel immediately.

Arming

Arming of the fuze starts when the arming wire is withdrawn from the fuze after bomb release. This permits an arming pin to be ejected and a movement assembly to begin operation. Air arming is provided by the arming vane which drives constant-speed centrifugal governor. At the end of the arming cycle, a spring-loaded slider is allowed to move and bring the primer into line with the firing pin. A spring-loaded detent retains the slider in the arm position. If impact occurs before the set time has expired, the firing pin is driven in, shearing the trigger mechanism and firing the primer.

M907 NOSE FUZE

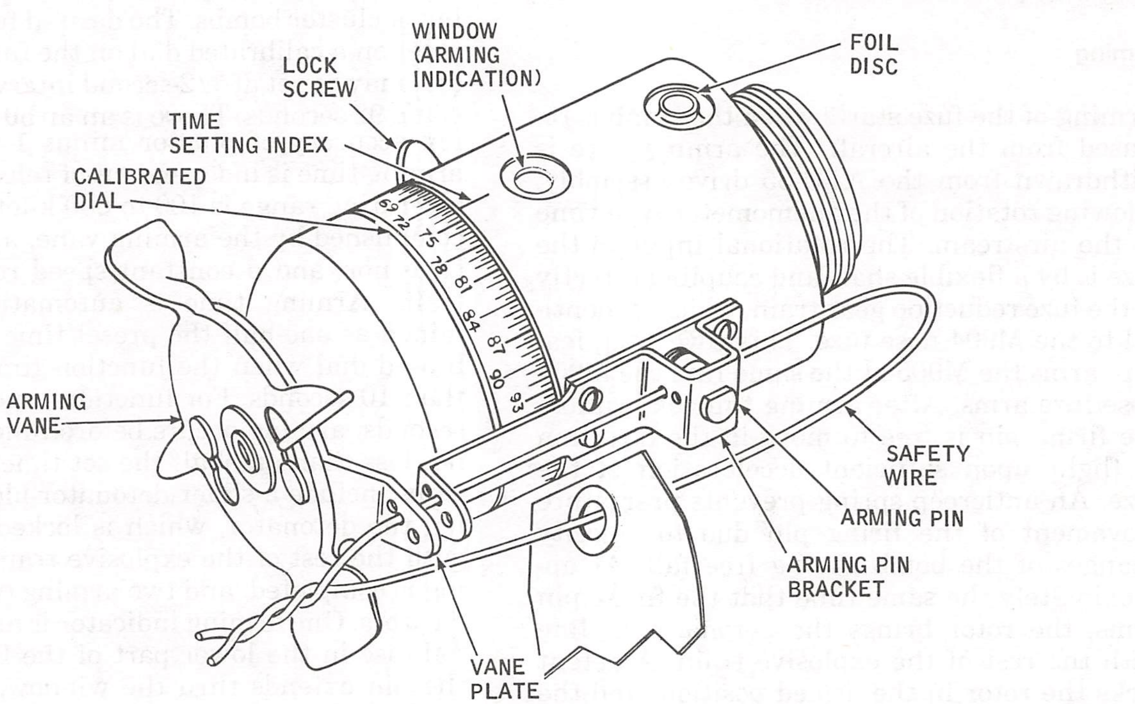


Figure 1-61.

M147A1 MECHANICAL TIME FUZE

The M147A1 nose fuze (figure 1-62) is a mechanical time nose fuze used to open the M129E2 leaflet bomb. The desired functioning (detonation) time for an airburst is set on a calibrated dial on the fuze body. The dial may be set at 1/2-second intervals between 5 and 92 seconds. Safety features include an arming pin, an out-of-line detonator, and the safety-block-safe principle. The fuze requires both mechanical arming and time arming to function. Mechanical arming is accomplished by a two-bladed arming vane assembly, and a gear train. The time of mechanical arming depends upon release airspeed, size of bomb, release dive angle, and occurs after 260 revolutions of the arming vane. Time arming occurs 4.5±1.5 seconds after release thru a timing disc and arming assembly.

Arming

As the arming wire is withdrawn from the arming vane, the vane is free to rotate and turn the arming hub assembly and gear train. This operation releases the safety block after 260 revolutions of the arming vane and the fuze is mechanically armed. Time arming also commences at release by the withdrawal of the arming wire, which permits the arming pin to be spring ejected. After 4.5±1.5 seconds, the out-of-line detonator slider is released. The slider is moved into position by spring action and locked in place by a spring detent. The functioning of the fuze occurs after the preset time on the calibrated dial has elapsed. After the preset time has elapsed, a springloaded firing pin is released and initiates the explosive train. If impact occurs before the set time has expired, the firing pin is driven in, shearing the trigger mechanism and firing the detonator.

M147A1 NOSE FUZE

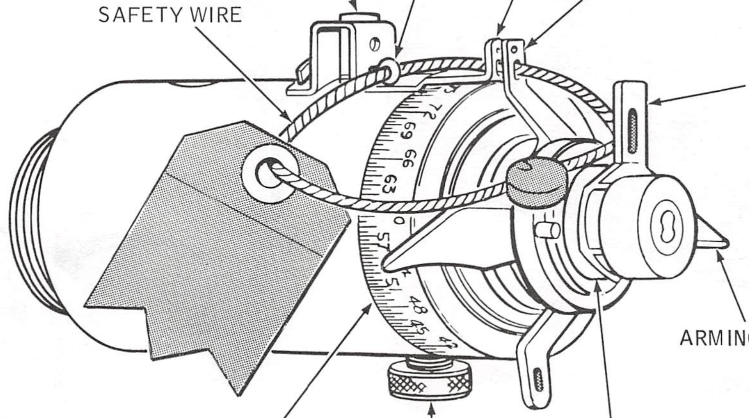


Figure 1-62.

WARNING

Evidence of an armed fuze is indicated by the absence of the safety block, by complete or partial ejection of arming pin, and by failure of trigger mechanism to position the striker clear of the safety block. If any of these conditions are noted, call explosive ordnance disposal (EOD) personnel immediately.

FMU-54/B TAIL FUZE

The FMU-54/B tail fuze (figure 1-63) is a mechanically operated retardation sensing device with a predetermined arming delay of 0.75 to 3.50 seconds, settable in 0.25-second intervals. The fuze is used for the tail fuze well of the MK-82 (Snakeye I) bomb equipped with high drag (retardation) fins. Upon release, the fin causes rapid deceleration of the bomb, initiates the fuze arming cycle, and provides a safe escape distance for delivery aircraft. In the event of fin malfunction, the fuze does not arm.

Arming

As the bomb falls away from the aircraft, the lanyard pulls the fuze lanyard engaging shaft, thus releasing the fuze components to operate. When retardation of 3.5 ± 0.5 g is felt, the commit weight frees the main g-weight which moves to its full travel. The g-weight pulls the timing block thru a delay assembly. Upon reaching the end of its travel, the timing block releases the timer to operate, thus arming the fuze in the preset period of time. If the fuze has not armed prior to impact, a fail-safe g-weight prevents arming.

FMU-54/B TAIL FUZE

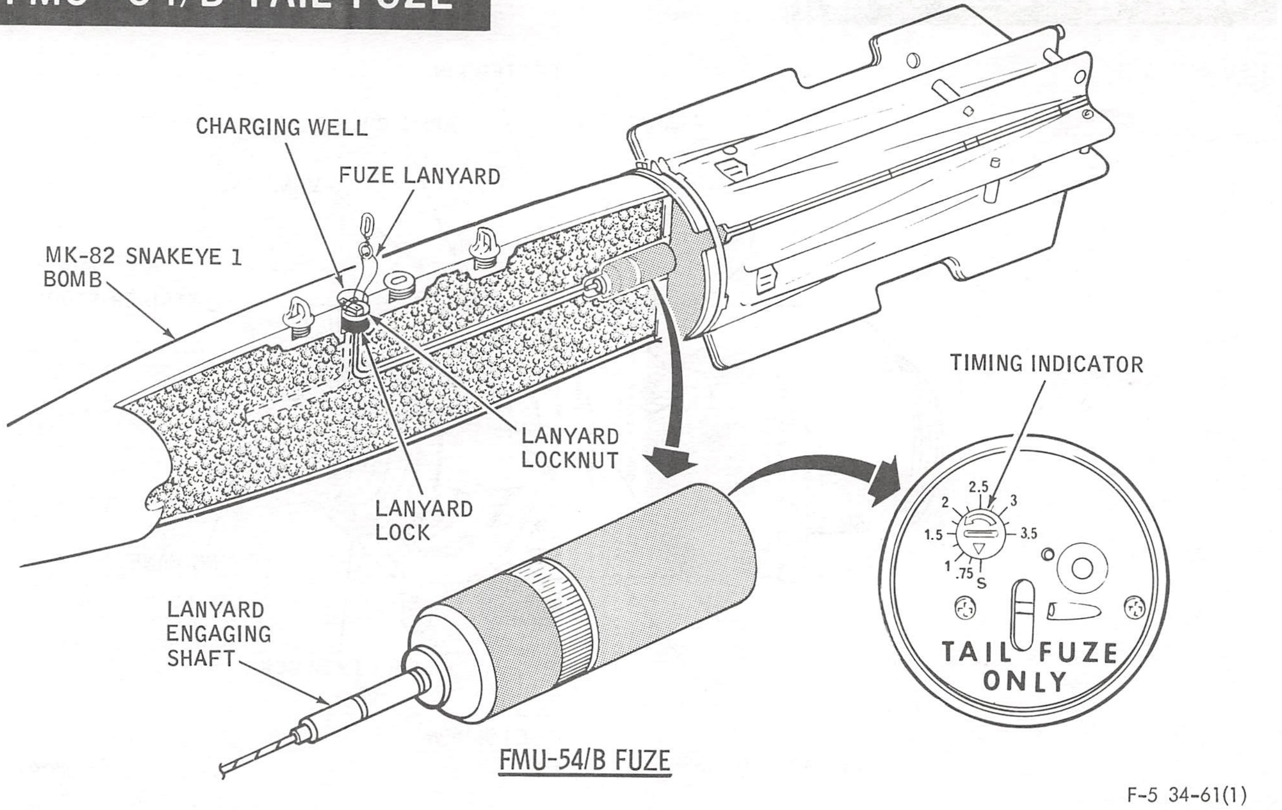


Figure 1-63.

Operating Restrictions

The recommended minimum release airspeed for FMU-54/B fuze operation is 350 knots IAS.

Safe Escape

Safe escape criteria must be observed in the selection of FMU-54/B arming delay settings. Even though the fuze arming delay can be set to a value as low as 0.75 second, a minimum setting of 2.5 seconds must be used to assure safe escape. Considering the MK-82 (Snakeye I) retarder opening times, this requires the selection of release conditions which provide a minimum bomb time-of-flight of 2.8 seconds. Fuze Arming and Safe Escape tables list the altitudes required for safe escape and FMU-54/B fuze arming (for the 2.5-second arming delay setting).

WARNING

- To assure safe escape in the event of a premature airburst detonation, the FMU-54/B arming delay setting must be a minimum of 2.5 seconds.
- The selected arming delay setting should be recorded on the red warning tag which is filled in and attached to the forward bomb suspension lug when the fuze is loaded into the bomb. This should be checked by the aircrew during the preflight of the aircraft.
- Since the fuze settings are not visible to the pilot for inspection, the munitions handling and loading personnel must be carefully briefed on the required settings and the red warning tag procedures.

ELECTRIC FUZES

FMU-26A/B, B/B FUZES

The FMU-26A/B airburst fuze and the FMU-26B/B airburst and groundburst fuze (figure 1-64) are electric fuzes powered by an internal thermal battery. The airburst mode is intended for use with dispenser type munitions. The fuzes are compatible with bombs that have internal plumbing (required to route the arming lanyard) and standard 3-inch fuze wells.

The arming lanyard is routed from the charging well of the bomb thru the internal plumbing to the battery firing device, which is attached to the fuze in the nose or tail fuze well. The free end of the arming lanyard, which is protruding from the charging well of the bomb, is routed thru the round loop of the swivel and link and then into a lanyard lock, which is installed in the charging well and secured by a lanyard locknut. When the bomb is loaded on the bomb rack, the elongated loop of the swivel and link is installed in the bomb rack arming solenoid.

When a bomb is released armed, the arming solenoid holds the elongated loop of the swivel and link, which remains with the bomb rack as the arming lanyard is withdrawn thru the round loop of the swivel and link. The arming lanyard remains attached to the bomb by the lanyard lock. This action cocks and releases the firing pin, which initiates the thermal battery in the fuze.

The thermal battery provides the electrical power for fuze operation. The fuze timing circuitry provides an arming signal at the preset arming time. This arming signal rotates the detonator to the in-line position. The fuze timing circuitry provides the firing (final event) signal at the preset time. The fuze modes with available arming times and final event times are tabulated in figure 1-65.

NOTE

- The arming time tolerance for the short-delay mode is ±0.3 second. With this mode, the minimum allowable bomb time of flight (to prevent duds) is the arming delay setting plus 0.3 second.
- The fuze contains a safing device which duds the fuze if impact occurs before arming.

The event and arm times are set into the fuze with an Allen wrench and displayed in the windows on the face of the fuze. The safe pin locks the fuze rotor in the out of line position until after the fuze is installed in the bomb. Before departure of the loaded aircraft from the loading area, the safe pin is removed from the fuze and replaced with the seal pin. The seal pin prevents entry of moisture into the fuze.

The aft end of the fuze (booster end) has a pie-shaped section to accept a booster.

Two kinds of boosters are used: a 45-gram RDX booster (FZU-2/B) secured to the fuze by tape, and a 5-gram M5 propellant booster (FZU-1/B) secured to the fuze by a metal bracket. The bracket is also used to hold the safety switch in the airburst mode. When the FMU-26A/B, -26B/B fuze is used with dispensers, the FZU-1/B (airburst) booster is used. When the FMU-26B/B fuze is used in high explosive bombs, the FZU-2B booster (booster and tape assembly) is used.

The FMU-26A/B and -26B/B fuze safety switch has three positions: red, green (normal), and blue (airburst). The green position keeps the firing circuit to the detonator disabled for approximately 6.6 seconds after bomb release. The safety switch should be kept in the green position for all medium delay settings. For release where the bomb time of flight to impact is less than 6.6 seconds, the safety switch must

FMU-26A/B AND-26B/B FUZES

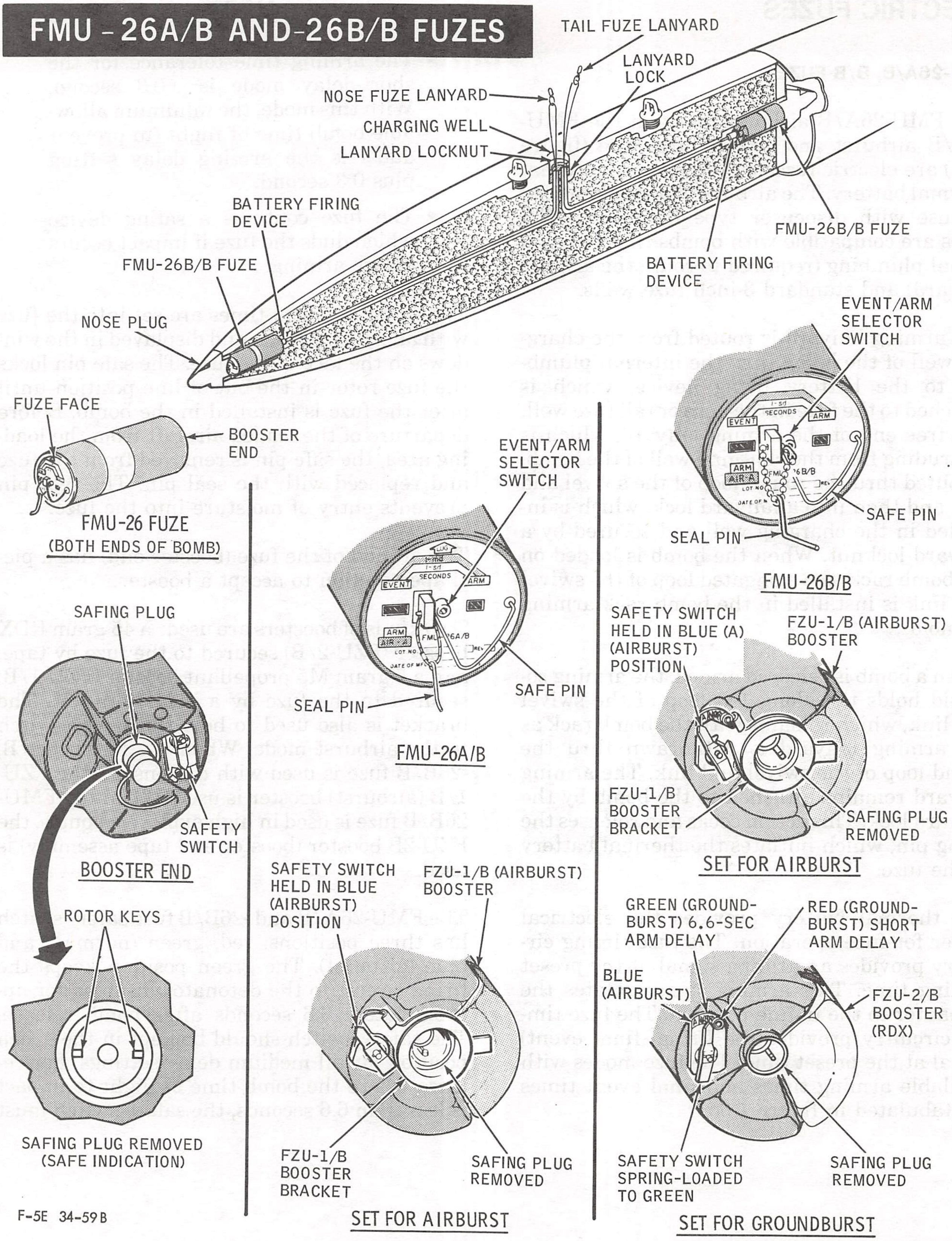


Figure 1-64.

FMU-26A/B AND -26B/B MODES

MODE	ARMING TIME	FINAL EVENT TIME	EVENT TOLERANCE
AIRBURST 1 FMU-26A/B, B/B	SELECTABLE 1.9 TO 99.9 SEC IN 0.5-SEC INCREMENTS	SELECTABLE OCCURS 0.1 SEC AFTER ARMING	±0.3 SEC
IMPACT 2 SHORT-DELAY FMU-26B/B ONLY	SELECTABLE 2.0 TO 20.0 SEC IN 2.0-SEC INCREMENTS	SELECTABLE NONDELAY, 0.010, 0.020, 0.050, 0.100, OR 0.250 SEC	±10% OR ±0.002 SEC, WHICHEVER IS GREATER

Note

- THE ARMING TIME TOLERANCE FOR THE FMU-26B/B SHORT DELAY MODE IS ±0.300 SECOND. WITH THIS MODE, THE MINIMUM ALLOWABLE BOMB TIME OF FLIGHT (TO PREVENT DUDS) WILL BE THE ARMING DELAY SETTING PLUS 0.300 SECOND.
- THE FUZE CONTAINS A SAFING DEVICE WHICH MAKES THE FUZE A DUD IF IMPACT OCCURS PRIOR TO ARMING.

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Figure 1-65.

be set to the red position to assure fuze function at the preset time. The blue position can be selected only when the FZU-1/B (airburst) booster is installed. The FZU-1/B booster metal bracket holds the spring-loaded safety switch in the blue position. The airburst mode is inoperative when the safety switch is out of the blue position. If the fuze selector switch is set in the airburst mode but the safety switch is not set at the blue position, the fuze detonates at impact thru the backup circuit.

WARNING

Whether the FMU-26A/B or -26B/B fuze is set in the red or green position, the minimum release altitude or vertical drop required for safe escape must be carefully observed as specified in the appropriate minimum release altitude/fuze arming tables.

The fuze in the nose fuze well permits changes of arming and event time settings if required after initial loading by removal of the nose plug. Changes in tail fuze settings require removal of the fuze from the bomb.

FMU-72/B LONG DELAY FUZE

The FMU-72/B long delay bomb fuze (figure 1-66) is compatible with the nose and/or tail fuze wells of all bombs with internal plumbing and the standard 3-inch fuze well, which include the:

a. MK-82, 500-lb GP Bomb

b. MK-83, 1000-lb GP Bomb

c. MK-84, 2000-lb GP Bomb

Settings must be made before installing the fuze in the fuze well. The fuze must be removed from the bomb to make the change.

FMU-72/B NOSE AND TAIL FUZE

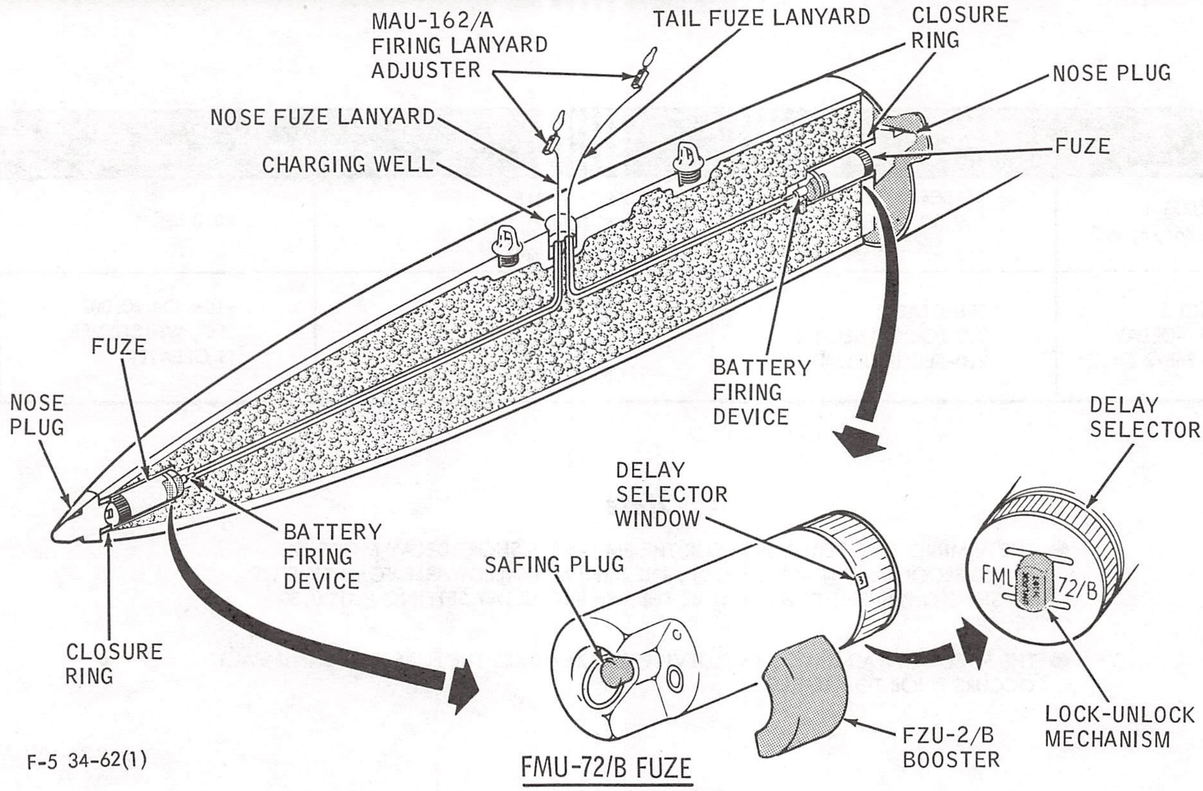


Figure 1-66.

WARNING

Since the fuze settings are not visible to the pilot for inspection, the munitions handling and loading personnel must be carefully briefed on required settings.

The FMU-72/B fuze is activated upon armed release. A swivel and link assembly or MAU-162/A firing lanyard adjuster is held by the arming solenoid and stays with the aircraft when the bomb is released. This pull cocks and releases the firing pin which initiates the liquid ammonia battery in the fuze. The battery provides electrical power for fuze operation. The arming circuitry provides a fixed delay for the signal for arming. The arming signal is used to rotate the detonator from the out of line position to the firing position. The detonator is grounded until impact occurs, and the power source which fires the detonator is not charged until 33 seconds after impact. The arming time and selectable event times are:

a. Arming time: Fixed at 6.0 +1.5/-1.0 seconds.

b. Event times: Selectable in 20-minute increments from 20 minutes to 5 hours; 1-hour increments from 5 hours to 16 hours; 2-hour increments from 16 to 30 hours; and 3-hour increments from 30 hours to 36 hours.

WARNING

When the FMU-72/B fuze is used in general purpose bombs, select minimum release altitudes which provide safe escape from premature bomb detonation at initial impact. To preclude ricochet, release conditions for general purpose bombs should provide a trajectory angle at impact in excess of 40 degrees.

For detailed information concerning anti-disturbance feature and impact spacing, refer to T.O. 1F-5E-34-1-1-1.

The fuze contains a safing switch which duds the fuze if impact occurs prior to arming.

NOTE

To assure adequate time for the FMU-72/B fuze to arm before impact, use the minimum release altitudes as specified in the fuze arming time tables for the M904E2/M905 fuze with a 6-second delay setting.

FMU-81/B DELAY FUZE

The FMU-81/B short-delay bomb fuze (figure 1-67) is compatible with the nose and tail fuze wells of the GBU-10F/B, -12E/B LGB.

The fuze consists of a body, nose, booster clip, battery firing device (BFD), lanyard hitch pin with warning tag, safe pin, FZU-2/B booster, and MAU-162/A firing-lanyard adjuster. The body is a steel cylinder with a window near the end opposite the nose. Contained within the body are a battery, a safing and arming mechanism, and an electronics assembly. The nose is a cone-shaped casting integral with the fuze body. Two delay-setting thumbwheels, one for arming and one for impact delay, are held in place by a fuze nose plug and connected to selector switches in the electronics assembly by two mating shafts. A seal plug and safety clip with warning tag complete the unit. The BFD is integral with the fuze body and protrudes from the recessed end of the body. The BFD contains a spring-loaded firing pin held in restraint by a shear wire until initiated by a pull from the lanyard. The safe pin is a slender steel rod visible through the window in the fuze body and nose to the seal plug. The FZU-2/B booster is shaped to fit the contour of the fuze booster cavity and to be snapped into position under the booster clip. The MAU-162/A firing lanyard adjuster consists of a lanyard tie-off block, a pull ring, and a shear wire.

Safety Features

A SAFE position of the arming-delay-setting thumbwheel renders the arming circuit inoperable.

Locking plates behind the arming-delay and impact-delay setting thumbwheels prevent accidental movement of the thumbwheels during ground handling of the fuze.

A safe pin reveals a potentially armed fuze by protruding through a seal plug on the fuze nose. The safe pin holds the rotor out of the line until the pin is driven through the plug by the arm-enable bellows.

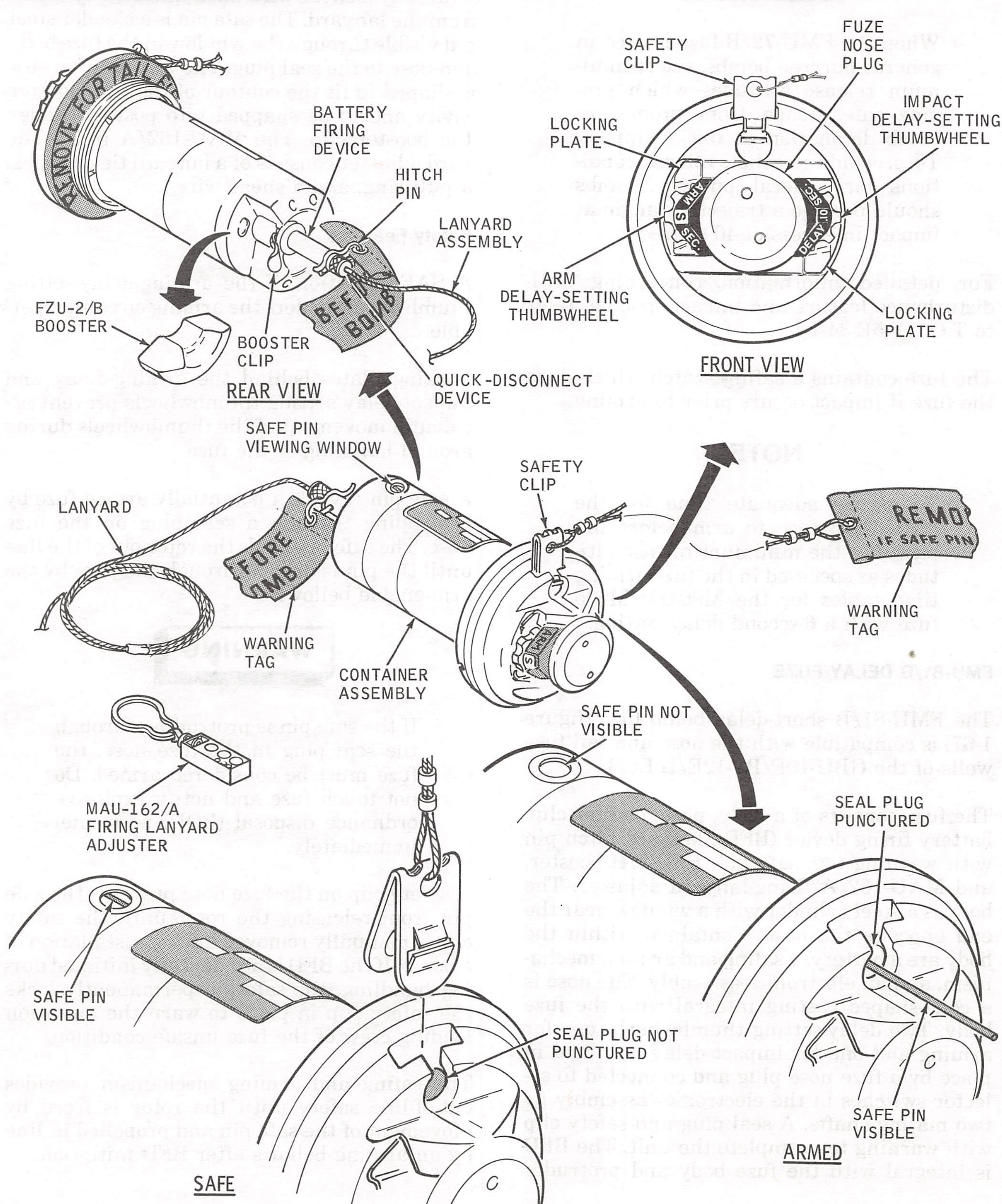
WARNING

If the safe pin is protruding through the seal plug in the fuze nose, the fuze must be considered armed. Do not touch fuze and notify explosive ordnance disposal (EOD) personnel immediately.

A safety clip on the fuze nose prevents the safe pin from releasing the rotor until the safety clip is manually removed during installation of a bomb. If the BFD is accidentally initiated during handling, the safe pin permanently locks the safety clip in place to warn the munition loading crew of the fuze unsafe condition.

The safing and arming mechanism provides out-of-line safety until the rotor is freed by movement of the safe pin and propelled in line by an arming bellows after BFD initiation.

FMU-81/B FUZE



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Figure 1-67.

The arm-enable circuitry prevents premature actuation of the arm-enable bellows.

Functional Description

The arming delay and selectable-impact delay times are:

a. Arming delays: Any of nine arming-delay settings (4, 5, 6, 7, 8, 10, 12, 14, or 20 seconds) or the SAFE setting can be selected by means of the delay setting thumbwheel of the arming-delay selector switch. The tolerance on the arming delay is ±5 percent. The arming-delay settings may be made before or after installation of the fuze in the bomb.

b. Impact delay: Any of six impact-delay settings (.00, .01, .02, .05, .10, or .25 second) can be selected by means of the delay-setting thumbwheel of the impact-delay switch. The impact-delay settings may be made before or after installation of the fuze in the bomb.

Operational Sequence

Upon bomb release, a lanyard pull shears a pin in the BFD and releases the BFD firing pin. The battery produces the 11 volts necessary to operate the timing and control circuitry in the fuze. At approximately 3/4 of the set arm time, the enable-bellows motor is activated, removing the safe pin block on the safing and arming mechanism. At the set arm time the arming bellows motor is activated, moving the detonator to the in-line position. On impact, the fuze functions after the preset impact delay.

FMU-7 SERIES FUZING NETWORK

The fuzing network of the BLU-1 and BLU-27 series fire bombs consists of FMU-7 series electrically armed igniter fuzes, M23A1 igniters, FMU-7 series initiator, arming lanyard, and electric cabling.

FMU-7 SERIES FUZES

The FMU-7 series fuzes include the FMU-7/B, A/B, B/B, and C/B fuzes (figure 1-68). They function instantaneously thru mechanical impact at any angle of impact and have no provisions for delayed functioning. The fuzes can be used as a nose or tail fuze. The arming-stem-safe principle is the basic safety feature of the fuzes. The FMU-7/B fuze is armed whenever the red tipped indicator pin attached to the piston protrudes approximately 5/16 inch thru the foil seal of the fuze head. The FMU-7A/B, B/B and C/B fuzes are armed whenever the fuze head indicator pin retracts, leaving a hole in fuze head surface. Once fuzes are armed, they cannot be reset.

WARNING

If pin protrudes thru hole in center of FMU-7/B fuze head or a hole is in the center of FMU-7A/B, B/B, or C/B fuze head, treat fuze as armed. Do not touch fuze. Call explosive ordnance disposal (EOD) personnel immediately.

M23A1 Igniter

The M23A1 igniter is cylindrical in shape and rounded at the end. In the rounded end is a fuze well designed to receive the fuze. The body of the igniter is filled with white phosphorus (WP).

WARNING

The white phosphorus in the igniter liquefies at 111 Fahrenheit (44°C) and may leak thru the filler plug if exposed to high temperatures. Leaking igniters can be determined by the presence of smoke and flame or by the presence of white material on the igniter. If any of these conditions are observed, call explosive ordnance disposal (EOD) personnel immediately.

FMU-7 SERIES INITIATORS

The FMU-7 series initiators include the FMU-7/B, A/B, B/B, and C/B initiators. The initiator is located in the top of the fire bomb between the suspension lugs. On modified BLU-

FMU-7 SERIES FUZING NETWORK

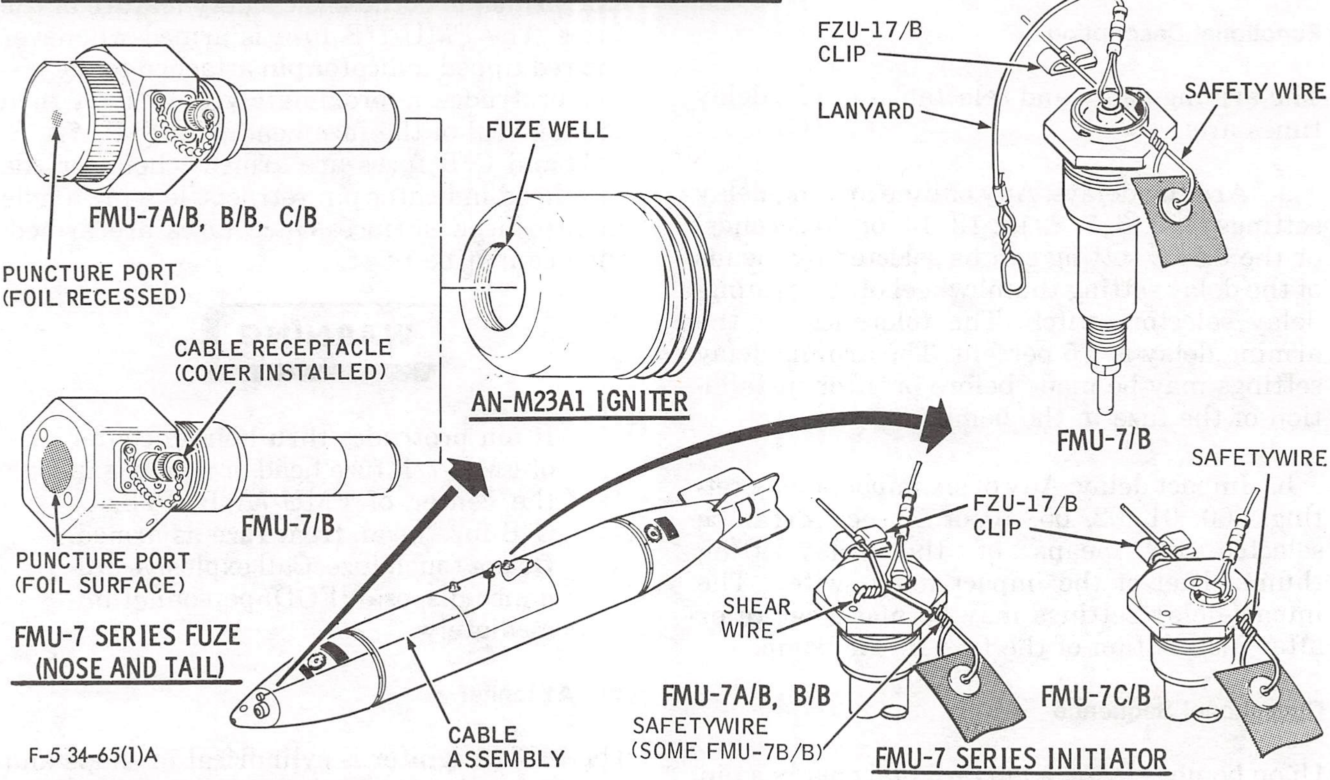


Figure 1-68.

27/B fire bomb, the FMU-7C/B initiator is located in either the nose or tail end cap. The initiators are similar and interchangeable. The initiator consists of an arming lanyard, spring-loaded firing pin, and a 1.5-volt thermal battery. The safety device of the FMU-7/B and C/B is safetied by a safetywire with clip instead of a shear wire. The safety device FMU-7/B and C/B must be removed before flight. Electrical cabling connects the initiator to the fuzes thru internal channels in the fire bomb.

NOTE

The FMU-7B/B initiator may have a safetywire with clip in addition to the shearwire. The safetywire must be removed before flight.

Arming

Arming is initiated as the weapon is released from the aircraft. The arming lanyard pulls the initiator cap from the initiator. A spring-loaded firing pin is released, forcing it against the primer and activating the thermal battery. After a 0.6-second delay (modified initiator), the battery produces a 1.5-volt pulse. This pulse is passed thru the electrical cabling in the fire bomb to an arming device in the fuze. The arming device withdraws the arming pin and permits the firing pin to be freed. The fuze is now armed.

Operation

When the FMU-7/B, A/B, B/B, or C/B fuze impacts (at any angle), the firing pin and the firing pin holder are forced together, firing the primer. Functioning of the fuze causes the igniter to burst, scattering the white phosphorus filling.

The phosphorus ignites spontaneously upon exposure to the air which, in turn, ignites the scattered napalm mixture of the bomb.

PROXIMITY FUZES

FMU-56/B PROXIMITY FUZE

The FMU-56/B (figure 1-69) is a self-powered doppler radar proximity fuze used to open a free-falling cluster bomb unit (CBU). The fuze has provisions for presetting fuze arming time and dispenser height of burst. The fuze is constructed in two cylindrically shaped sections. The smaller section fits into the fuze well of the munition and the larger section protrudes externally.

The FMU-56/B proximity fuze is an altitude sensing fuze with nine settings available for burst altitude and nine safe separation settings (2 to 18 seconds).

Burst settings are set on the fuze prior to installation in the munition; safe separation settings (arming time) may be made after the fuze is installed in the munition. The available switch positions, corresponding safe separation times, and height of burst (HOB) are:

HOB SWITCH

Switch Position	Function (ft AGL)
0	0
1	250
2	500
3	800
4	1100
5	1500
6	1800
7	2100
8	2500
9	3000

FMU-56 SERIES NOSE FUZE

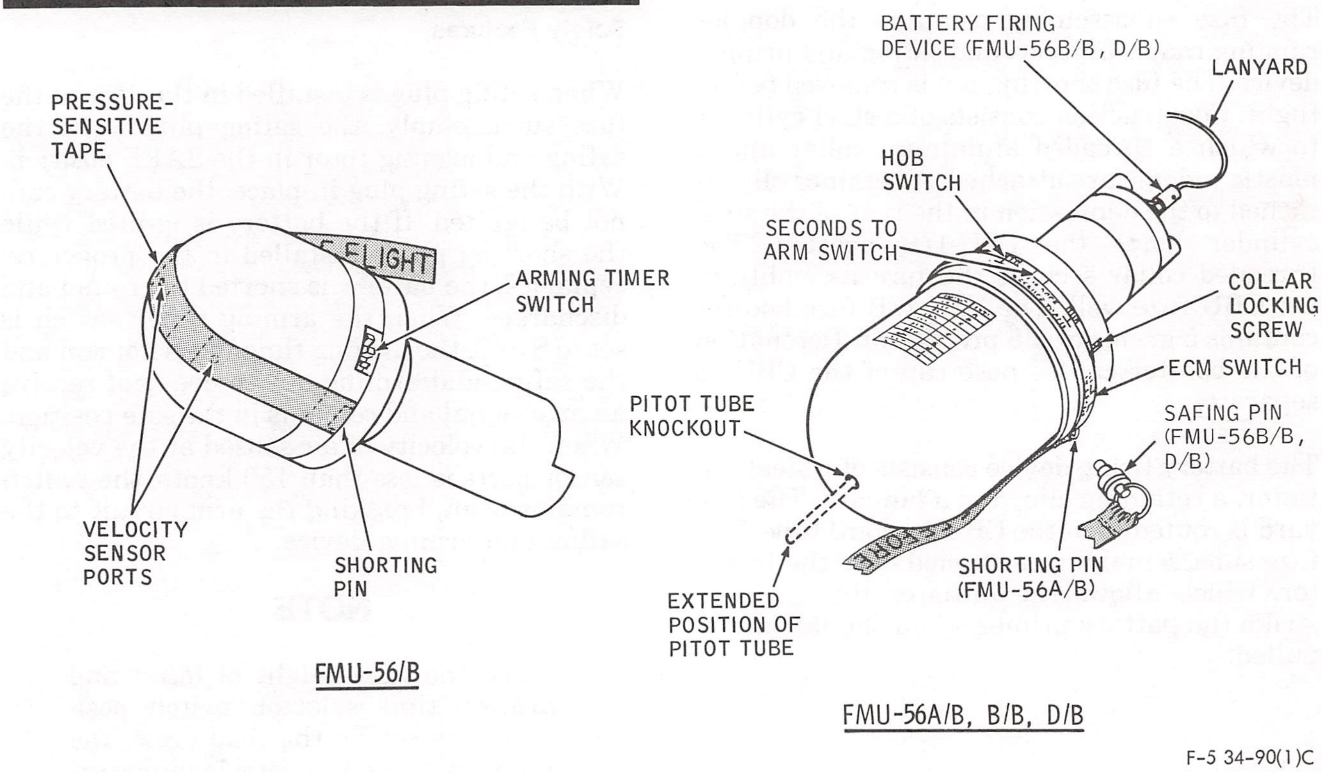


Figure 1-69.

ARMING TIMER SWITCH

Switch Position	Arming Time (sec)
S or 0	Safe
A or 1	2
B or 2	3
C or 3	4
D or 4	6
E or 5	8
F or 6	10
G or 7	12
H or 8	14
J or 9	18

CAUTION

Use of a minimum safe separation setting of 3 seconds is recommended for all release situations to assure adequate aircraft/munition separation distance at cluster opening time.

The fuze subassembly contains the doppler ranging radar, battery, and safing and arming device. The fuse shorting pin is removed before flight. Construction consists of a steel cylinder to which a threaded aluminum collar and a plastic radome are attached. A retainer clip attached to the depression in the rear of the steel cylinder holds the FZU-1/B booster. The threaded collar secures the fuze assembly in the CBU fuze well. The FZU-1/B fuze booster contains 5 grams of M5 propellant. Detonation of the booster causes nose cap of the CBU to separate.

The battery firing device consists of a steel initiator, a retaining clip, and a lanyard. The lanyard is routed thru the CBU lanyard tube. The fuze subassembly is positioned over the initiator, which allows the initiator firing pin to strike the battery primer when the lanyard is pulled.

Operation

After the CBU is released from the aircraft, the battery firing device is activated when the lanyard is pulled. The firing pin of the battery firing device initiator strikes the battery primer, igniting the battery, which applies power to the fuze circuitry and starts the arming timer. The arming timer runs for its preset time, and provided the velocity sensor switch is closed, the fuze arms.

When energized, the radar circuitry of the fuze is continually checking the CBU height above the ground and the vertical component of velocity with respect to the ground. When the height above ground (measured by the fuze) is the same as the height of burst and the closing velocity of the munition is greater than a predetermined minimum value, the detonator fires thru the booster ignition port of the fuze housing to detonate the booster. Detonation of the booster pushes the FMU-56/B fuze and the CBU nose cap out of the CBU canister, allowing the CBU to separate into two pieces and disperse the payload.

Safety Features

When safing plug is installed in the rear of the fuze subassembly, the safing plug locks the safing and arming rotor in the SAFE position. With the safing plug in place, the battery cannot be ignited. If the battery is ignited while the shorting pin is installed in the proper receptacles, the battery is shorted to ground and discharges. When the arming timer switch is set to S or 0, the arming timer does not run and the safing and arming device does not receive an arm signal and remains in the safe position. When the velocity of air sensed at the velocity sensor ports is less than 150 knots, the switch remains open, breaking the arm circuit to the safing and arming device.

NOTE

Since the fuze height of burst and arming time selector switch positions are set by the load crew, the munitions handling and loading personnel must be carefully briefed on the required settings.

FMU-56A/B PROXIMITY FUZE

The FMU-56A/B is an improved version of the FMU-56/B. The major differences between the FMU-56/B and FMU-56A/B fuzes are in the selectable safe separation times (SST) on the SECONDS TO ARM switch, the selectable heights of burst (HOB), and provisions in the FMU-56A/B for presetting and ECM operational mode. For additional information concerning the ECM operational mode, refer to T.O. 1F-5E-34-1-1-1. The FMU-56A/B ECM switch must be set as required. The safe separation time (arming time) and height of burst values available with the FMU-56A/B fuze are:

SECONDS TO ARM SWITCH

Switch Position	Arming Time (sec)
X	Safe
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
18	18

HOB SWITCH

Switch Position	Height of Burst (ft)
A	250
B	500
C	800
D	1100
E	1500
F	1800
G	2000
H	2200
J	2500
K	3000

NOTE

The arming timer tolerance for the FMU-56/B and FMU-56A/B fuzes is ±10% of the selected value or ±0.5 second, whichever is greater. During mission planning the munition time of flight from release to function altitude must be greater than the SST setting plus the arming timer tolerance. If the munition passes thru the selected function height prior to the expiration of the preset SST, the fuze does not function.

All FMU-56A/B selector switches are located on the antenna support collar to provide for complete selectability after the fuze is installed in the munition. The velocity (pitot) system provides for improved sealing of the fuze radome. The two-stage safe separation function in the FMU-56A/B deploys the pop-out pitot tube thru a fracture disk in the nose of the radome prior to the expiration of the selected SST. If the pop-out pitot tube senses an airflow greater than 150 knots, the velocity switch closes. Switch closure allows the output of the SST to proceed to the bellows actuator in the safety and arming device. The function of the safing plug and safing pin and the safe (X) position of the SECONDS TO ARM switch are unchanged.

Safety Features

The following additional safety features are available with the FMU-56A/B:

a. Impact switch. Should the fuze impact the ground prior to the expiration of the preset SST, the impact switch will prevent the fuze from arming.

b. Visual arm indicator. When the velocity sensor system is activated, a pitot tube will be extended from the radome. The extended pitot tube is an indication that the battery has been ignited and the fuze should be treated as armed.

FMU-56B/B PROXIMITY FUZE

The FMU-56B/B proximity fuze is identical to the FMU-56A/B except the FMU-56B/B has an integral battery firing device and lanyard and a safing pin in lieu of a shorting pin. The lanyard, battery firing device, and fuze must be installed in or removed from the dispenser as a unit. For additional information concerning the ECM operation mode, refer to T.O. 1F-5E-34-1-1-1.

FMU-56D/B PROXIMITY FUZE

The FMU-56D/B differs from the FMU-56B/B in operating frequency and in the arming and functioning criteria for fuze operation. All proximity data processing for the FMU-56D/B begins 3.7 seconds after release, regardless of SST setting. Criteria for functioning and arming are:

a. The fuze must be armed prior to reaching HOB.

b. The fuze must sense 200 feet per second vertical velocity (minimum) after 3.7 seconds and as it passes thru the range gates and the HOB.

c. The fuze must sense passing thru the outer and middle gates after 3.7 seconds and prior to HOB (outer gate is 600 feet +HOB, middle gate is HOB +250 feet). The fuze senses and remembers the range gates if they occur after 3.7 seconds and prior to or after arming time. If all other criteria are satisfied and the munition passes thru both range gates and HOB before arming, the munition functions immediately upon expiration of the SST.

NOTE

FMU-56D/B fuzed cluster munitions dud if flown in medium rain at 550 KIAS in excess of 8 minutes, or at 450 KIAS in excess of 30 minutes. Under these flight conditions, radome erosion causes the pitot tube to sense a false pressure differential and cause a premature arming sequence, which results in a dud fuze.

FMU-110/B PROXIMITY FUZE

The FMU-110/B (figure 1-70) is a self-powered doppler radar proximity fuze used to open a free-falling cluster bomb unit. The fuze has provisions for presetting fuze SST and dispenser HOB. The fuze is constructed in two cylindrically shaped sections. The smaller section fits into the fuze well of the munition and the larger section protrudes externally.

The FMU-110/B proximity fuze is an altitude sensing fuze with 10 settings available for HOB altitude and 9 SST settings (3 to 18 seconds). Burst settings and safe separation settings (arming time) may be made after the fuze is installed in the munition. The available switch positions and corresponding safe separation times and HOB are:

HOB SWITCH

Switch Position	Height of Burst (ft)
A	300
B	500
C	700
D	900
E	1200
F	1500
G	1800
H	2200
J	2600
K	3000

SECONDS TO ARM SWITCH

Switch Position	Arming Time (sec)
X	Safe
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
18	18

FMU-110/B NOSE FUZE

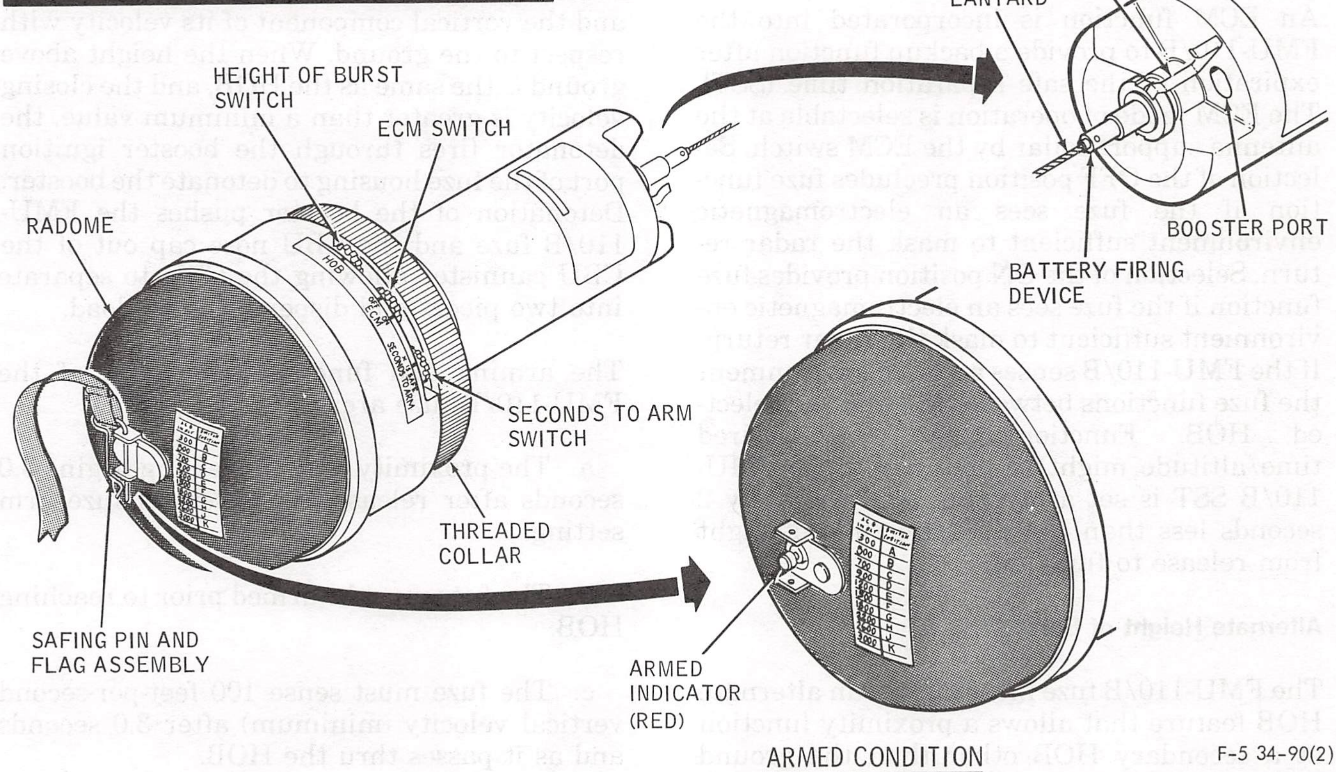


Figure 1-70.

NOTE

- The arming timer tolerance for the FMU-110/B fuze is ±10% of the selected value or ±0.5 second, whichever is greater. During mission planning, the munition time of flight from release to function altitude must be greater than the SST setting plus the arming timer tolerance. If the munition passes thru the selected function height prior to the expiration of the preset SST, the fuze function is uncertain and a dud round may result.
- To assure adequate time for all fuze functional requirements to be met, the fuze should be fully armed no less than 2 seconds prior to the preset HOB.

The fuze subassembly contains the doppler ranging radar, battery, and safing and arming device. The fuze subassembly is equipped with a safing pin which is removed before flight. Construction consists of a steel cylinder to which a threaded aluminum collar and a plastic radome are attached. A retainer clip attached to a depression in the rear of the steel cylinder holds the FZU-1/B booster. The threaded collar secures the fuze assembly in the CBU fuze well. The FZU-1/B fuze booster contains five grams of MS propellant. The booster is attached to the rear of the fuze assembly. Detonation of the booster causes the nose cap of the CBU to separate. The battery firing device is integral to the fuze and consists of a steel initiator, a retaining clip and a steel lanyard. The lanyard is routed thru the CBU lanyard tube.

ECM Function

An ECM function is incorporated into the FMU-110/B to provide a backup function after expiration of the safe separation time (SST). The ECM mode of operation is selectable at the antenna support collar by the ECM switch. Selection of the OFF position precludes fuze function if the fuze sees an electromagnetic environment sufficient to mask the radar return. Selection of the ON position provides fuze function if the fuze sees an electromagnetic environment sufficient to mask the radar return. If the FMU-110/B senses an ECM environment the fuze functions between SST and the selected HOB. Function near the desired time/altitude might be obtained if the FMU-110/B SST is set at a value approximately 2 seconds less than the expected time of flight from release to function.

Alternate Height of Burst

The FMU-110/B fuze incorporates an alternate HOB feature that allows a proximity function at a secondary HOB other than the ground selectable HOB. This alternate HOB is internal to the fuze and is preset by the manufacturer at 700 feet ± 50 feet. For mission planning purposes the back-up HOB function is operative whenever the munition is released below the preset HOB. The fuze may function any time after arming due to a radar return from a slant range corresponding to the preset HOB.

Since the fuze may function at either 700 feet AGL, or any time after expiration of the preselected SST, release conditions should be selected for which these two events are nearly coincident.

Operation

After the CBU is released from the aircraft, the battery firing device is activated and applies power to the fuze circuitry and starts the arming timer. The arming timer runs for its preset time and the fuze arms provided the velocity sensor switch is closed.

The radar circuitry of the fuze is continually checking the CBU's height above the ground and the vertical component of its velocity with respect to the ground. When the height above ground is the same as the HOB, and the closing velocity is greater than a minimum value, the detonator fires through the booster ignition port of the fuze housing to detonate the booster. Detonation of the booster pushes the FMU-110/B fuze and the CBU nose cap out of the CBU cannister allowing the CBU to separate into two pieces and disperse the payload.

The arming and functioning criteria of the FMU-110/B fuze are:

a. The proximity data processing begins 3.0 seconds after release, regardless of fuze arm setting.

b. The fuze must be armed prior to reaching HOB.

c. The fuze must sense 100 feet-per-second vertical velocity (minimum) after 3.0 seconds and as it passes thru the HOB.

Safety Features

When a safing pin is installed in the front of the fuze, the safing pin locks the safing and arming rotor in the SAFE position. If the battery is ignited while the safing pin is installed, and the SECONDS TO ARM switch is other than X position (safe), the safing pin physically blocks removal of a mechanical lock on the safing and arming rotor. When the SECONDS TO ARM switch is set to safe, the arming timer does not run and the safing and arming device does not receive an arm signal and remains in the safe position. When the velocity of air sensed at the velocity sensor ports is less than 120 knots, the switch remains open, breaking the arm circuit to the safing and arming device. The FMU-110/B fuze has a visual arm indicator.

When the velocity sensor system is activated (battery ignited and SECONDS TO ARM switch other than safe), a red indicator rod is

extended from the radome. The extended indicator rod is an indication that the battery has been ignited and the fuze should be treated as armed.

NOTE

Since the fuze HOB and SECONDS TO ARM switch positions are set by the load crew, the munitions handling and loading personnel must be carefully briefed on the required settings.

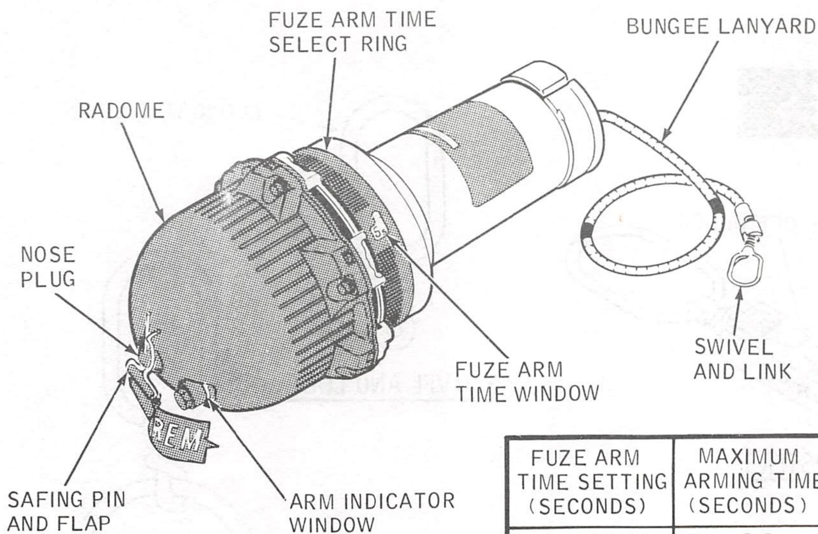
FMU-113/B PROXIMITY FUZE

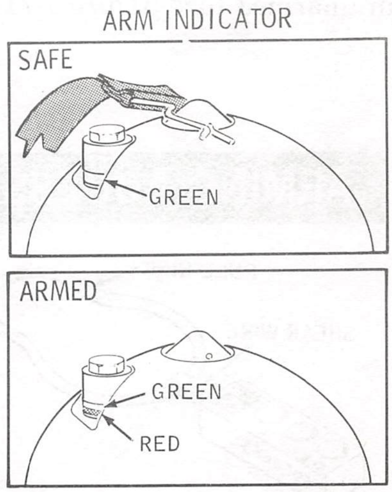
The FMU-113/B (figure 1-71) is a low altitude doppler radar proximity fuze for use in low drag, general purpose bombs. The fuze has a safe/arm indicator that can be viewed after installation in the bomb. The fuze is mechanically armed, has ground selectable fuze arm time settings of 5, 6, 7, 8, 9, 10, and 18 seconds, and a SAFE position. Fuze initiation is accomplished at release by bungee lanyard pull. The fuze has no stored arming energy; power for sensor operation is obtained from an air-turbine-powered alternator. The sensor portion of the fuze provides a 0 to 25 feet (15 feet nominal) HOB. The fuze has an impact burst backup feature.

Operation

The munition must be released at 250 knots CAS or greater to assure proper fuze operation. To assure a proximity function, time of flight (TOF) from release to impact must allow: (1) the arming time to expire, plus a fixed delay (0.5 second) inherent in the fuze operation, and (2) the vertical velocity component of the muni-

FMU-113/B PROXIMITY FUZE





FUZE ARM TIME SETTING (SECONDS)	MAXIMUM ARMING TIME (SECONDS)	FIXED DELAY (SECONDS)	MINIMUM RECOMMENDED MUNITION TOF (SECONDS)
5	5.5	0.5	6.0
6	6.6	0.5	7.1
7	7.7	0.5	8.2
8	8.8	0.5	9.3
9	9.9	0.5	10.4
10	11.0	0.5	11.5
18	19.8	0.5	20.3

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Figure 1-71.

tion to exceed 200 feet per second. The munition time of flight must be greater than the sum of the arming time setting, plus the 10% tolerance, plus 0.5 second. If sufficient TOF is not allowed, the munition may dud if impact occurs prior to expiration of arm time, or may function on impact if impact occurs subsequent to expiration of arm time but prior to expiration of the fixed delay. See figure 1-71 for recommended munition TOF times for each fuze arm time setting to assure proximity function. The fuze arm time (or safe operation) setting should be commensurate with the type of bomb and delivery to be used. For safe escape distance considerations the minimum arming time for each fuze arm time setting must be used. The minimum arming time is the fuze arm time setting minus the 10% tolerance. If the fuze arms and fails to fire, the red portion of the arm indicator rod is visible through the arm indicator window. Any red or red/green showing in the window indicates an armed fuze. Only green showing (NO RED) indicates an unarmed fuze (figure 1-71).

WARNING

Any red showing indicates the fuze is not safe and EOD personnel should be called immediately.

ARMING ACCESSORIES

Fuze arming accessories include retaining clips, firing lanyard adjusters, swivel and loop, and swivel and link (figure 1-71A). The arming wire/lanyard/cable installation for various bombs is shown in figure 1-72, sheets 1 thru 3. When the swivel and link assemblies are used, the arming wire is routed through the link. The swivel and loop may be used in lieu of the swivel and link. When swivel and loop assemblies are used, the arming wire must be routed thru the elongated loop.

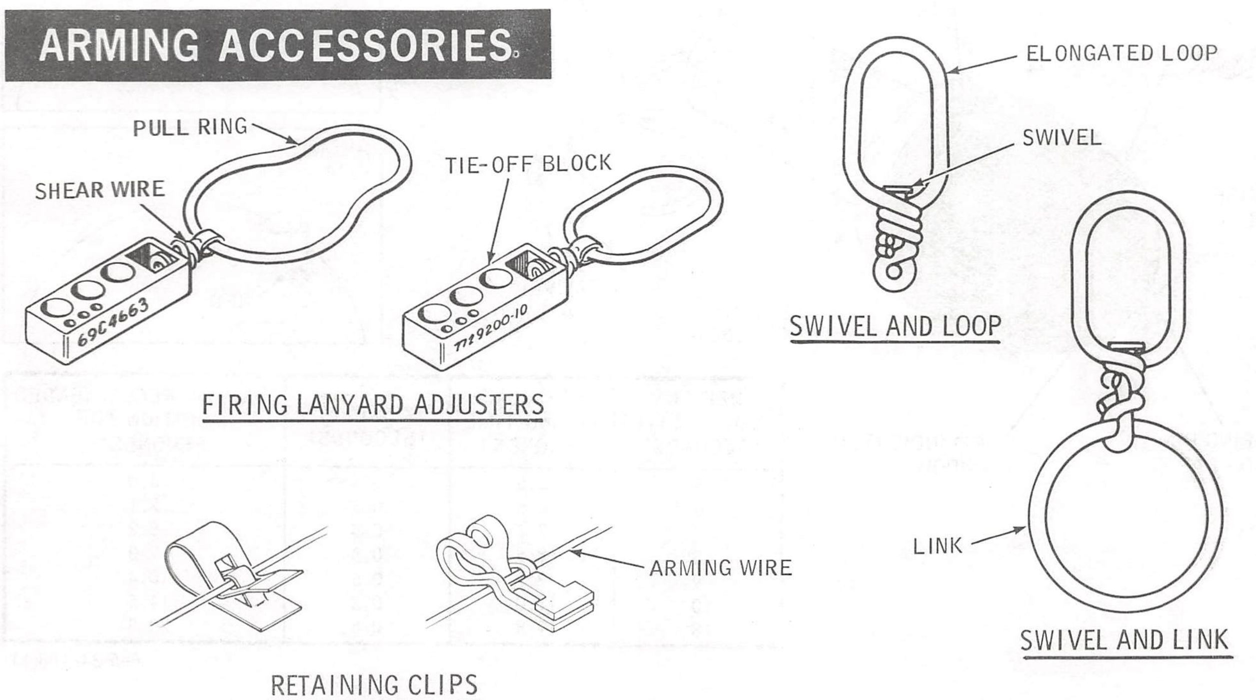


Figure 1-71A.

ARMING WIRE/LANYARD INSTALLATION

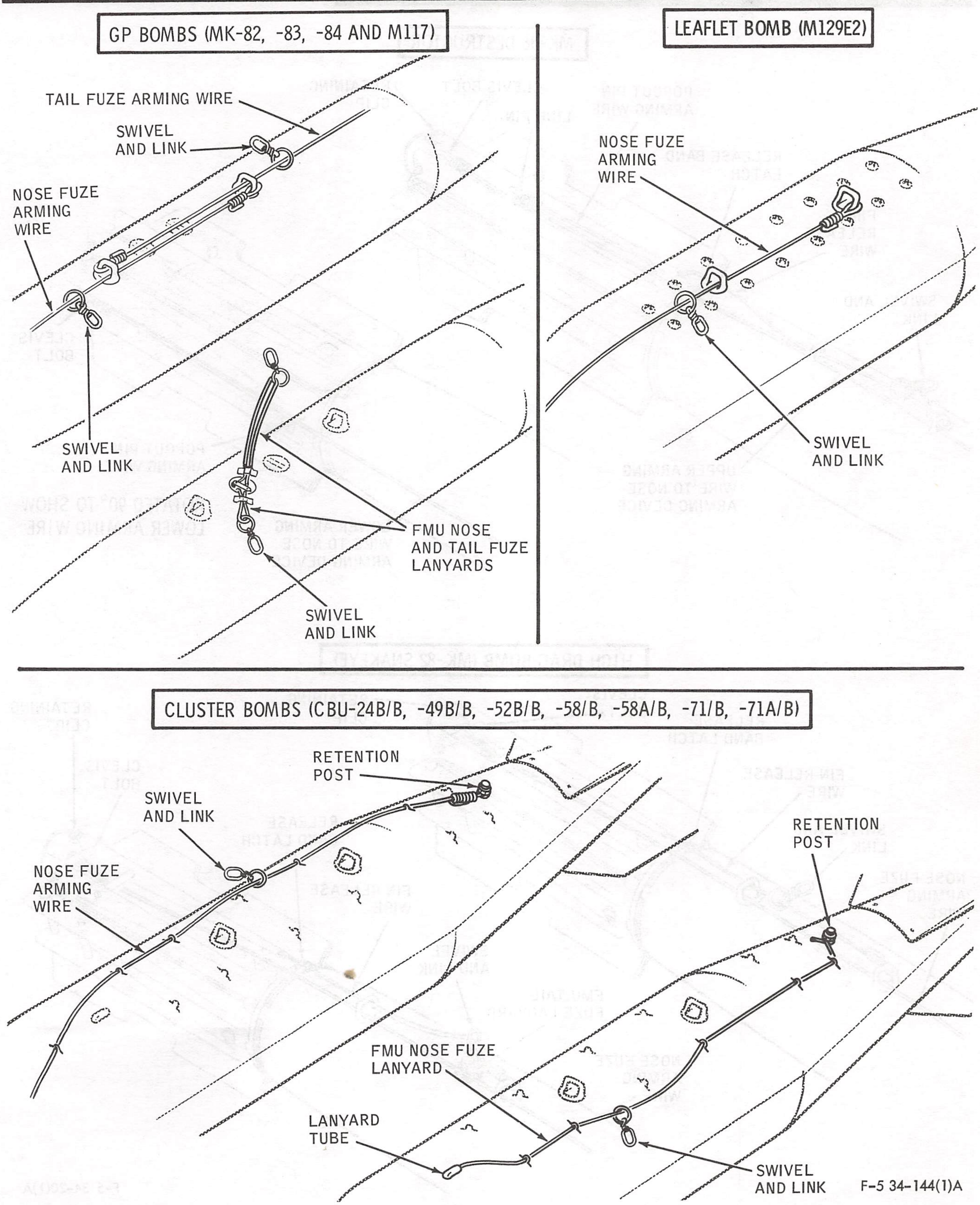


Figure 1-72. (Sheet 1)

ARMING WIRE/LANYARD INSTALLATION

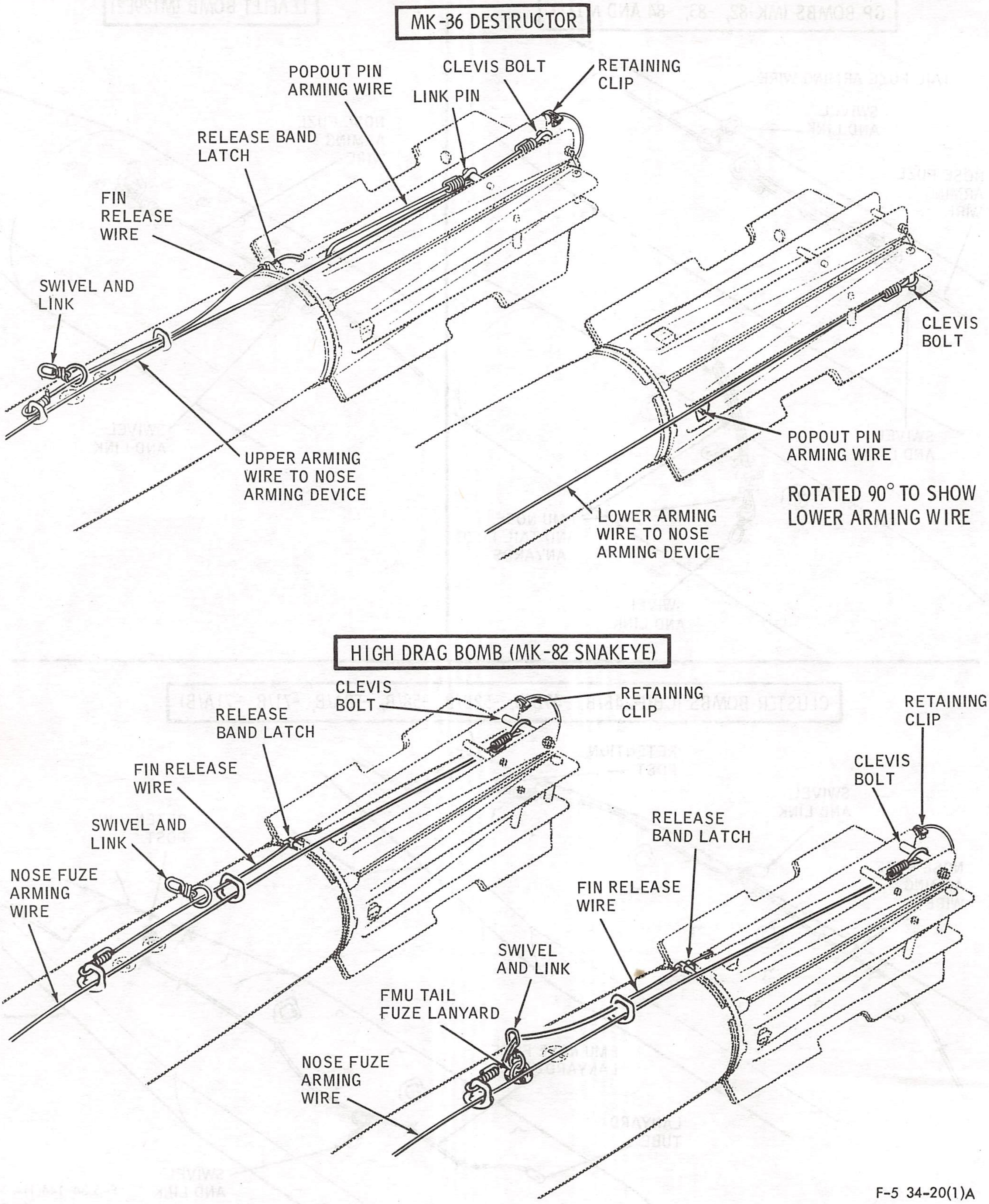
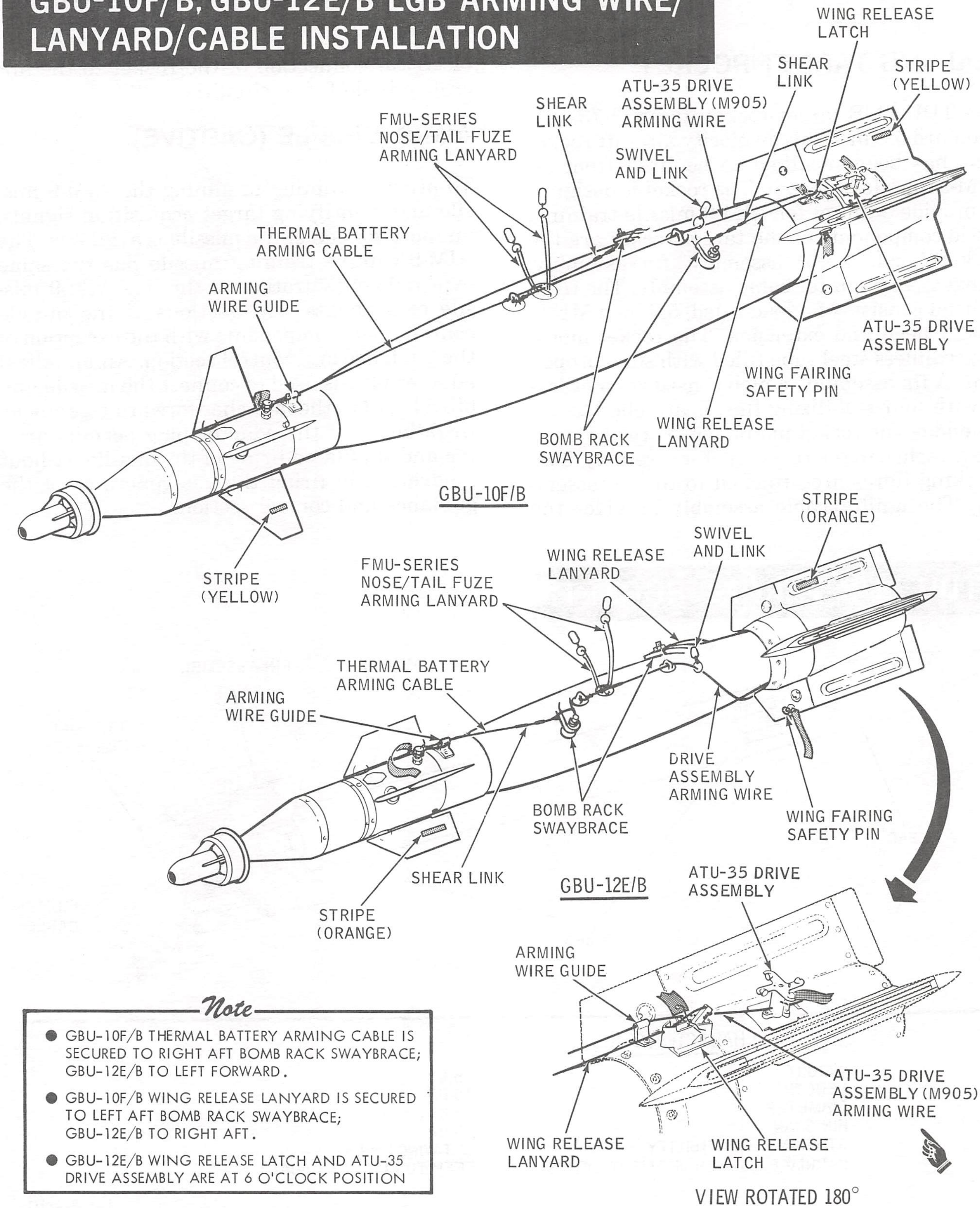


Figure 1-72. (Sheet 2)

GBU-10F/B, GBU-12E/B LGB ARMING WIRE/ LANYARD/CABLE INSTALLATION



Note

- GBU-10F/B THERMAL BATTERY ARMING CABLE IS SECURED TO RIGHT AFT BOMB RACK SWAYBRACE; GBU-12E/B TO LEFT FORWARD.
- GBU-10F/B WING RELEASE LANYARD IS SECURED TO LEFT AFT BOMB RACK SWAYBRACE; GBU-12E/B TO RIGHT AFT.
- GBU-12E/B WING RELEASE LATCH AND ATU-35 DRIVE ASSEMBLY ARE AT 6 O'CLOCK POSITION

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Figure 1-72. (Sheet 3)

NONNUCLEAR TRAINING WEAPONS AND EQUIPMENT

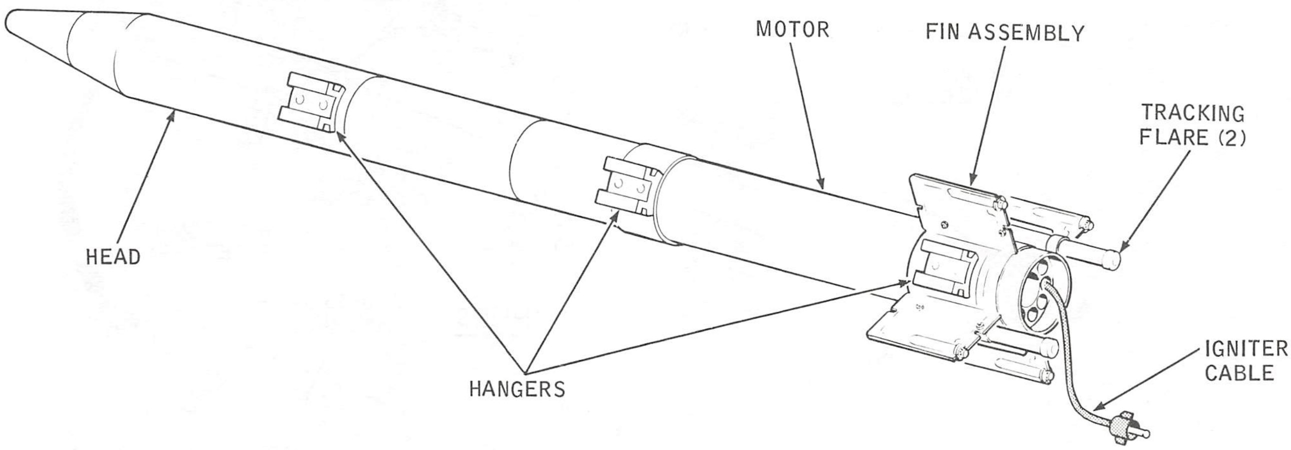
TDU-11/B TARGET ROCKET

The TDU-11/B target rocket (figure 1-73) is a standard 5.0-inch, high-velocity aircraft rocket that has been modified to be fired from an AIM-9 missile launcher. The rocket is designed to provide a target for AIM-9 missile training. Basic components of the target rocket are the rocket head, motor assembly, fin assembly, hangers, and igniter cable assembly. The rocket head consists of a lead-filled, 5.0-inch MK-6, Mod 1 head and extension. The rocket motor is a seamless steel tube filled with solid propellant. A fin assembly, which consists of a bracket with four stabilizing fins, is attached to the aft end of the rocket motor. The three hangers are attached to the rocket motor assembly. Two tracking flares are attached to the fin assembly. The igniter cable assembly provides the electrical connection of the rocket to the aircraft missile firing circuitry.

AIM-9 MISSILE (CAPTIVE)

To provide training in aiming the AIM-9 missile and identifying target acquisition signals, an inert version of the missile is available. The AIM-9 captive training missile has the same external configuration as the live AIM-9 missile components. The sections of the missile contain inert components with the exception of the guidance and control section. An umbilical adapter plug is used to connect the missile umbilical cord to the launcher forward receptacle. Installation of the adapter plug permits arming and simulated firing of the missile without inadvertently firing the gas generator of the guidance and control section.

TDU-11/B TARGET ROCKET



CHARACTERISTICS

WEIGHT	215 LB
LENGTH	75 IN
DIAMETER	5 IN
FIN SPAN	15 IN
STATION COMPATIBILITY	LEFT WINGTIP LAUNCHER
CARRIAGE/LAUNCH/JETTISON LIMITS	REFER TO FLIGHT MANUAL.

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Figure 1-73.

AIM-9 ICT

The AIM-9 inert captive trainer is composed of a one piece tubular steel body with flat plate wings (no rollerons). It is weighted to simulate all AIM-9 dash 2 and dash 3 series missiles when equipped with the appropriate guidance system. It provides the same training as any captive AIM-9 missile. For operational purposes, it is considered an AIM-9 captive missile.

PRACTICE BOMBS

BDU-33 SERIES

The BDU-33 series practice bombs include the BDU-33A/B, BDU-33B/B and BDU-33D/B (figure 1-74). The bombs have an elongated, tear-drop-shaped body and a fin assembly welded to a center tube. A conical afterbody is welded to the center tube and roll-crimped into two grooms on the aft end of the bomb body. A firing pin assembly, signal cartridge, and inertia tube are inserted into the bomb and retained by a cotter pin. The bombs are loaded on the SUU-20 series bomb-rocket dispenser.

BDU-33A/B

The BDU-33A/B has a cruciform type fin, firing pin assembly, signal cartridge, and inertia tube inserted in the tail of bomb.

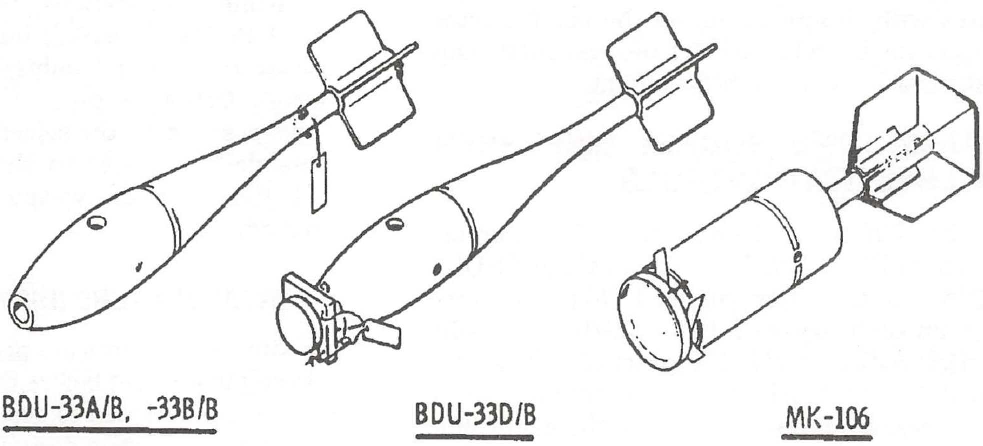
BDU-33B/B

The BDU-33B/B is the same as BDU-33A/B except for a safety device (cotter pin and tag), which is inserted between firing pin and signal cartridge during buildup. When the safety device is removed, the bomb must be disassembled before the safety device can be reinstalled. Instead of the MK-4 Mod 3 signal cartridge, a CXU-2/B (titanium tetrachloride) spotting charge can be used in the bomb. A safety clip for the CXU-2/B prevents the firing pin from moving during handling operations. The safety clip can be reinstalled without disassembly of the bomb.

BDU-33D/B

The BDU-33D/B differs from the BDU-33A/B and BDU-33B/B in that the spotting charge has been relocated from the tail to the nose of the bomb. A firing pin assembly is installed in

PRACTICE BOMBS



CHARACTERISTICS	BDU-33	MK-106
WEIGHT	24.0 LB	5.0 LB
LENGTH	23.0 IN	19.0 IN
DIAMETER	4.0 IN	4.0 IN

G9400615

Figure 1-74.

the nose of the bomb to ignite the spotting charge. A safety block prevents the firing pin from moving during handling operations. The safety block can be reinstalled without disassembly of the bomb.

BDU-50 SERIES PRACTICE BOMBS

BDU-50/B and BDU-50A/B practice bombs are used to simulate the parent MK-82 general purpose bombs. Delivery procedures, release characteristics and ballistics are basically the same. They are inert filled and do not have internal plumbing or fuze wills, and may be used in either the low drag (LD) or Snakeye I high drag (HD) configurations. The BDU-50A/B may also be used in the GBU-12 configurations.

MK-106

The high drag MK-106 practice bomb (figure 1-74) is composed of an inner cylinder, an outer cylinder, and fin assembly. The bomb uses an MK-4 Mod 3 bomb spotting charge installed in the inner cylinder. A box type fin assembly, consisting of four metal vanes is welded to the aft end of the inner cylinder. When the bomb is carried in the SUU-20 series bomb-rocket dispenser, one of the two indexing holes in the bomb mates with the index pin on the bomb ejector piston ram. Each bomb has a plunger safety clip that must be removed before flight.

SUU-20 BOMB ROCKET DISPENSER AND SYSTEM CONTROLS

The SUU-20 series bomb-rocket dispenser includes the SUU-20/A(M), SUU-20A/A and SUU-20B/A. The dispensers (figure 1-75) provide carriage and delivery of six BDU-33A/B, BDU-33B/B, BDU-33D/B or MK-106 practice bombs and four 2.75-inch FFAR. The dispensers are similar in design and are carried on the centerline pylon. An adapter assembly is required when the dispenser is carried on the (F) centerline pylon. The dispenser consists of two cast aluminum end caps and a reinforced sheet metal center section. The center section is recessed for carrying six practice bombs (pairs in tandem), and on each side of the recessed section are rocket tubes (two on each side) for carrying four rockets. The forward end cap contains two rotary stepper (intervalometer) controls (figure 1-75), one for rockets and one for bombs. These controls must be set before flight.

The bombs are held in individual bomb ejector racks by retainer arms, similar to clamps, and stabilized by swaybraces. Each bomb is safetied in position with a red flagged ejector safety pin installed in each ejector gun, mechanically locking bomb retainer arms around the bomb.

Each cartridge holder is secured by a lockpin. The ejector safety pins must be removed before flight. Each bomb is ejected by a piston and rod assembly that operates within a breech housing, driven by gas pressure from an ejector cartridge (one for each ejector rack). The four rocket tubes are equipped with a detent latch to engage tile rocket. The rocket firing pulse is provided to the rocket thru a spring-loaded probe mounted at the aft end of each tube. Bomb and rocket firing is programmed by use of intervalometers in the dispenser, one for the rocket firing circuit and one for the bomb release circuit. The dispenser bomb and rocket electrical circuits are safetied while on the ground by a circuit disconnect safety spring inserted in the underside, at the aft end of the dispenser.

EXTERNAL STORES SELECTOR (COCKPIT)

For bombing operations, positioning the selector at BOMB directs dc bus power to the dispenser to release bomb(s) when the weapon release button is pressed. For rocket operations, positioning the selector at RKT/DISP directs dc bus power to the dispenser to fire rocket(s) when the weapon release button is pressed.

INTERVALOMETERS (DISPENSERS)

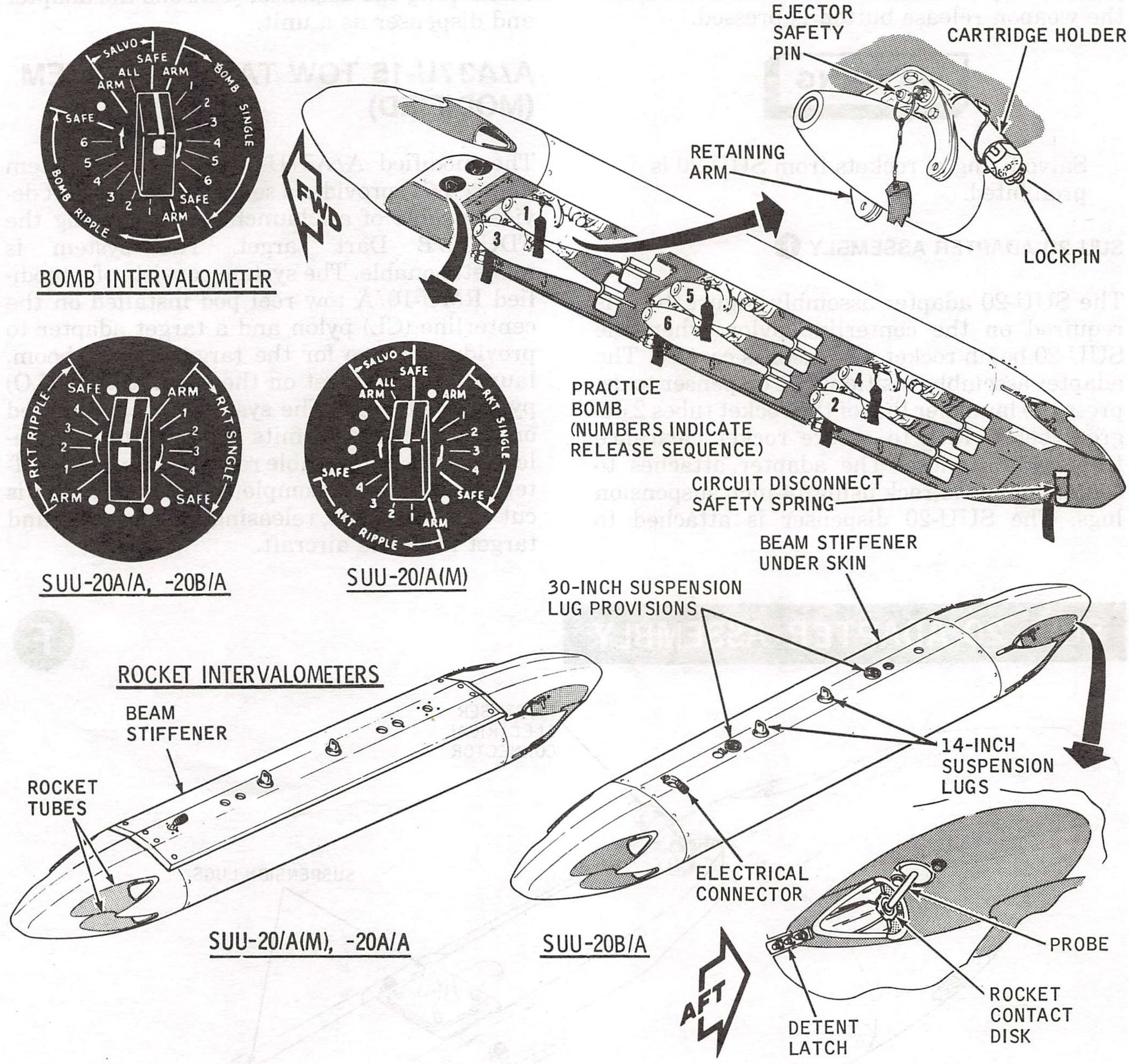
Two intervalometers are provided on the SUU-20 and must be set before flight. Each intervalometer is positioned to desired selection by rotating in a clockwise direction.

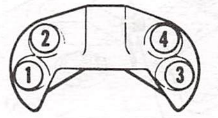
CAUTION

Bomb and rocket intervalometers must be turned clockwise only, or controls may be damaged.

a. The bomb intervalometer provides for selection of single release, ripple release (at approximately 100-millisecond intervals), and salvo release of bombs when the weapon release button is pressed.

SUU-20 SERIES BOMB AND ROCKET DISPENSER





ROCKET FIRING SEQUENCE (VIEW LOOKING FORWARD)

CHARACTERISTICS	SUU-20/A(M)	-20A/A	-20B/A
WEIGHT EMPTY	320 LB	325 LB	270 LB
* WEIGHT LOADED	535 LB	540 LB	485 LB
LENGTH	122 IN	122 IN	122 IN
FRONTAL DIMENSION	19.3 IN WIDE AND 12.3 IN HIGH		
SUSPENSION LUG SPACING	14 IN	14 IN	14 IN
STATION COMPATIBILITY	CL PYLON	CL PYLON	CL PYLON
CARRIAGE/EMPLOYMENT/ JETTISON LIMITS	REFER TO FLIGHT MANUAL.		

*6 BDU-33 BOMBS AND 4 FFAR

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Figure 1-75.

b. The rocket intervalometer provides for selection of single fire and ripple fire (at approximately 100-millisecond intervals), when the weapon release button is pressed.

WARNING

Salvo firing of rockets from SUU-20 is prohibited.

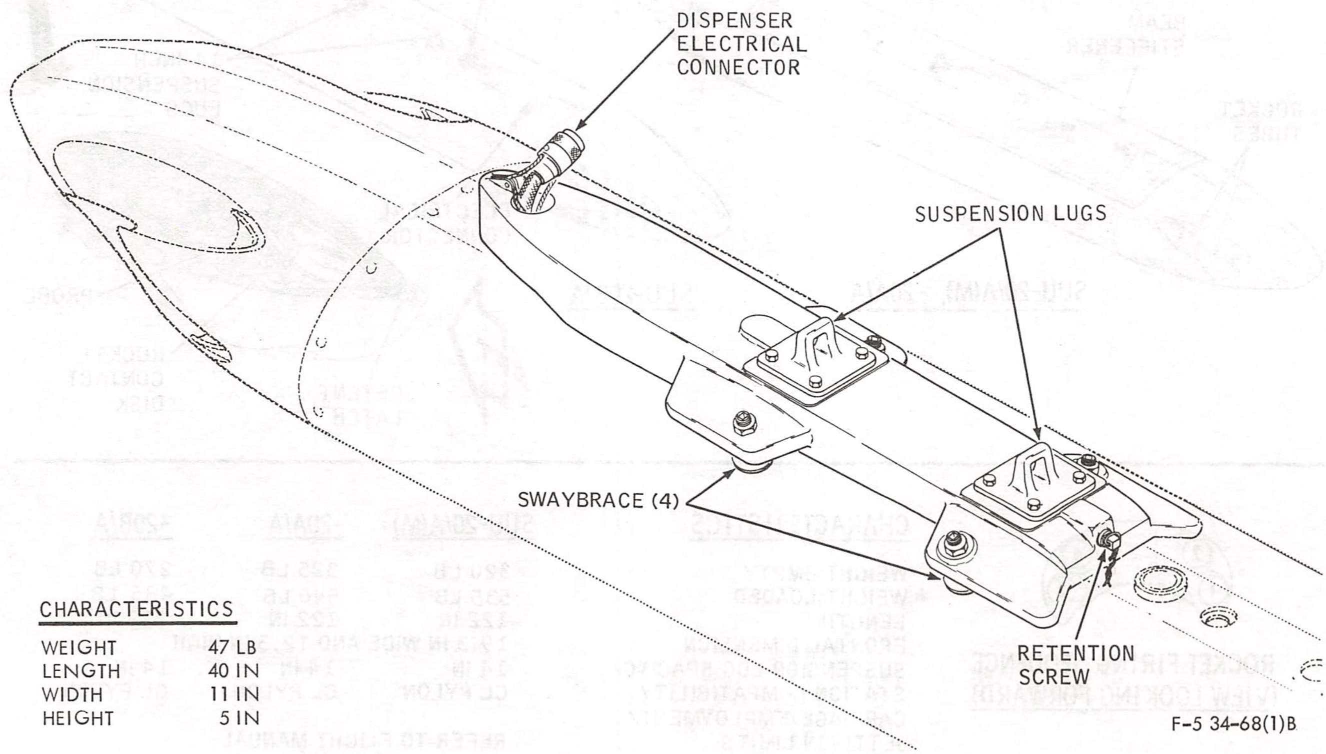
SUU-20 ADAPTER ASSEMBLY (F)

The SUU-20 adapter assembly (figure 1-76) is required on the centerline pylon when the SUU-20 bomb rocket dispenser is carried. The adapter assembly positions the dispenser to depress the launcher line of the rocket tubes 2 degrees below FRL to assure rocket clearance from aircraft nose. The adapter attaches to centerline bomb rack using 14-inch suspension lugs. The SUU-20 dispenser is attached to adapter using 14-inch suspension lugs and electrically connected to pylon thru the adapter. Jettisoning the dispenser jettisons the adapter and dispenser as a unit.

A/A37U-15 TOW TARGET SYSTEM (MODIFIED)

The modified A/A37U-15 tow target system (figure 1-77) provides a self-contained target device capable of air launching and towing the TDU-10/B Dart target. The system is nonjettisonable. The system consists of a modified RMU-10/A tow reel pod installed on the centerline (CL) pylon and a target adapter to provide carriage for the target carrier boom, launcher and target on the left outboard (LO) pylon bomb rack. The system, when installed on the aircraft, permits the target to be released and the tow cable reeled out in flight. After the mission is completed, the tow cable is cut while airborne, releasing the tow cable and target from the aircraft.

SUU-20 ADAPTER ASSEMBLY (F)

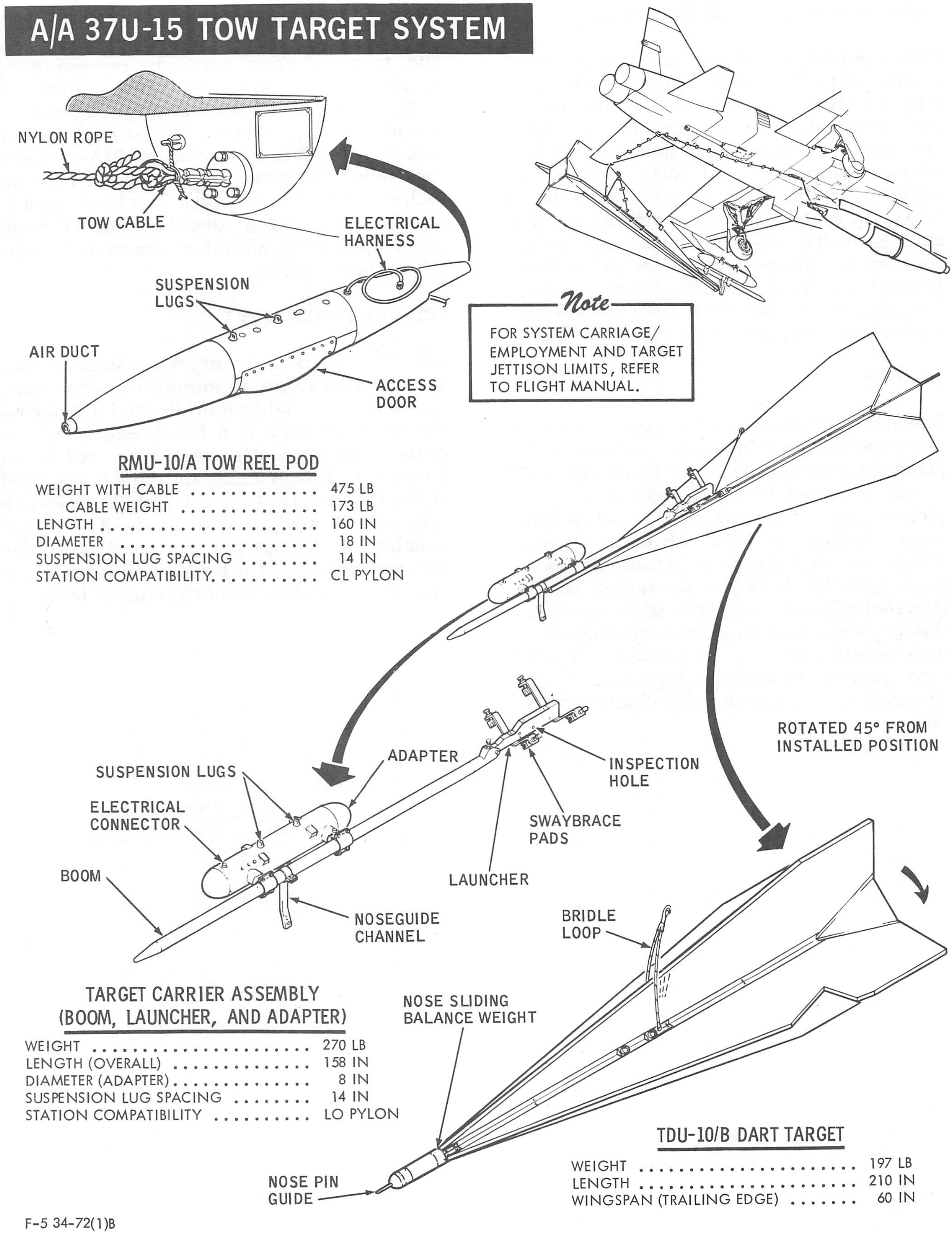


CHARACTERISTICS

WEIGHT	47 LB
LENGTH	40 IN
WIDTH	11 IN
HEIGHT	5 IN

Figure 1-76.

A/A 37U-15 TOW TARGET SYSTEM



RMU-10/A TOW REEL POD

WEIGHT WITH CABLE	475 LB
CABLE WEIGHT	173 LB
LENGTH	160 IN
DIAMETER	18 IN
SUSPENSION LUG SPACING	14 IN
STATION COMPATIBILITY	CL PYLON

TARGET CARRIER ASSEMBLY (BOOM, LAUNCHER, AND ADAPTER)

WEIGHT	270 LB
LENGTH (OVERALL)	158 IN
DIAMETER (ADAPTER)	8 IN
SUSPENSION LUG SPACING	14 IN
STATION COMPATIBILITY	LO PYLON

TDU-10/B DART TARGET

WEIGHT	197 LB
LENGTH	210 IN
WINGSPAN (TRAILING EDGE)	60 IN

Figure 1-77.

RMU-10/A TOW REEL POD (MODIFIED)

The modified tow reel pod consists of a forward, center, and aft section. The forward section contains a duct to provide cooling air to the tow reel. The center section contains the tow reel and modified 14-inch spaced suspension lugs, which position the pod further aft on the centerline pylon. Doors are provided in the bottom of the center section to permit access to the cable spool. The aft section of the pod contains the electrical harness for connecting to the pylon and two electrically actuated cable cutters. The cable cutters provide normal and alternate methods of dropping the target and cable.

Tow Reel

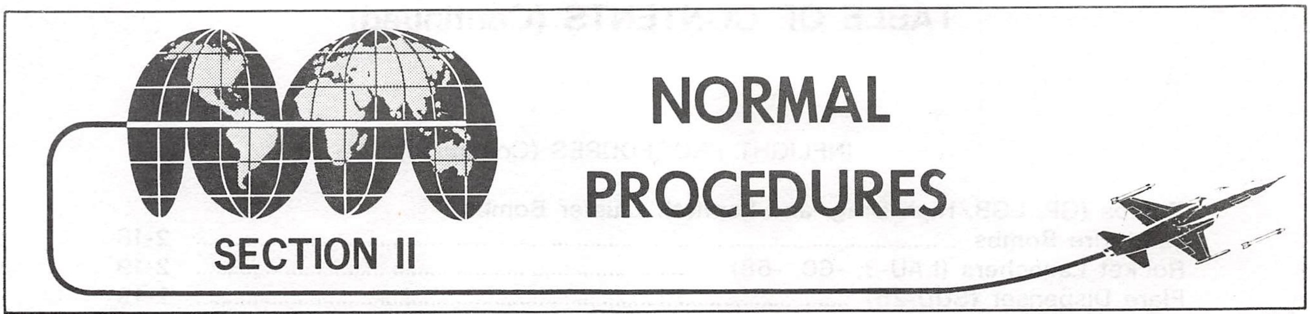
The Model 29C2 tow reel mounted in the center section of the tow reel pod is a one-way reel capable of carrying 2300 feet of 11/64-inch cable. A self-energized inertial brake controls the reel-out speed of the tow cable. A 30-foot length (approximately) of 7/16-inch diameter nylon attachment rope is connected from the tow reel cable to the bridle loop on the target. The rope is routed along the underside of the fuselage to the left of the arresting hook and then on the underside of the left horizontal tail, using cloth tape (gunner's tape) to hold the rope in place. The cable/rope connection is safetywired to the pod.

TARGET CARRIER ASSEMBLY

The target carrier assembly consisting of adapter, boom, and target launcher installed on the left outboard pylon bomb rack, provides mounting facilities for the TDU-10/B Dart tow target. A standard Air Force type MA-4A bomb rack is incorporated into the launcher for attachment of the tow target. The bomb rack is electrically connected thru the launcher, boom and adapter to the aircraft wiring system in the left outboard pylon.

TDU-10/B DART TARGET

The TDU-10/B dart target consists of four wings bolted to an aluminum center section, nose balance weights, a bridle, and a radar reflector. Each wing is a honeycomb core surrounded by a wood frame and covered by an aluminum skin. A radar reflector is installed at the aft end of the target. The sliding nose balance weight is adjusted when the dart target is balanced. A nose pin guide rod protrudes through the nose of the target for insertion into the noseguide channel of the carrier boom.



SECTION II
NORMAL PROCEDURES

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INTRODUCTION

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INFLIGHT PROCEDURES (Continued)

POSTFLIGHT PROCEDURES

TOW TARGET PROCEDURES

INTRODUCTION

SCOPE

This section contains normal procedures required by the pilot to perform preflight, inflight, and after landing operations for delivery of nonnuclear weapons. Condensed nonnuclear weapons delivery procedures are contained in the Pilot's Nonnuclear Weapons Delivery Checklist, T.O. 1F-5E-34-1-1CL-1. Exterior inspections preceded by a star (★) are considered SAFETY OF FLIGHT ITEMS which should be checked by the pilot.

PREFLIGHT PROCEDURES

BEFORE EXTERIOR INSPECTION

1. Form 781 — Check.
   a. Check status of aircraft and load configuration as briefed.
   b. Check NAVORD Form 2867 (New 2-59) if AIM-9 missile is loaded.
2. Bombs Arm Switch — SAFE.
3. Guns — Camera/Guns, Missile and Camera Switch — OFF (Guard Closed).
4. External Stores Selector — SAFE (Detent).
5. Armament Position Selector Switches (7) — OFF.
6. Select Jettison Switch — OFF.
7. ⚠ External Stores Jettison T-handle Safety Pin — Installed.
8. AIM-9 Missile Select Switch — Matches Missile.

EXTERIOR INSPECTION

ARMAMENT SAFETY SWITCHES

★1. Armament Safety Switch Linkage — Connected.
2. Ground Gunfire Override Switch — Outboard/Guard Closed.

GUNS

1. Gun Muzzle Caps — Removed.

ARMAMENT SAFETY SWITCHES

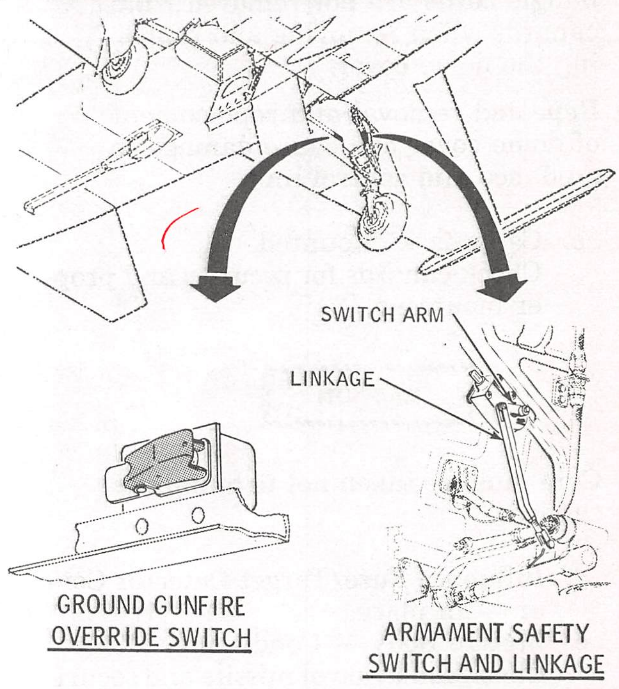


Figure 2-1.

MISSILE (AIM-9, -9 CAPTIVE)/ROCKET (TDU-11/B)

★1. Launcher Safety Pin — Installed.
2. AIM-9 Missile:
   a. Security on Rail — Check.
   Check for security and proper loading on launcher rail.

NOTE

Captive missiles will have an AIM-9 clamp assembly installed over the missile forward hanger to prevent missile movement on launcher rail.

b. Infrared Dome — Condition.
If missile launch is anticipated, remove dome cover and check that surface is clean and free of scratches. Replace cover.

CAUTION

- Damage to the IR dome may occur during inspection if the nose cover bungie cords are not removed from canards when removing and replacing the dome cover.
- Repeated removal and replacement of dome cover can cause damage to guidance and control unit.

c. Canards — Mounted.
Check canards for security and proper mounting.

CAUTION

Care must be taken not to bump the canards.

d. Influence Fuze/Target Detector Cover — In place.
e. Missile Body — Condition.
Check condition of missile and security of attachment of guidance and control unit.
f. (SR116-HP-1 Rocket Motor) Arming Key — Installed.
★g. Wings — Mounted.
Check wings for security and proper mounting.
★h. Rollerons (If Applicable) — Condition.
Check that rolleron assemblies are caged and secured with tiedown cords, and rollerons move freely.

NOTE

Captive missiles with defective rolleron bearings will have the rollerons drilled and bolted to prevent rotation.

i. Umbilical Cable — Connected.
Check that the missile umbilical cable is connected to the launcher forward electrical receptacle. When a captive missile is loaded, check that adapter plug is connected between umbilical cable and launcher forward electrical receptacle.

3. TDU-11/B Target Rocket:
a. Security on Rail — Check.
Check for security and proper loading on launcher rail.
b. Igniter Cable — Clamped and Unplugged.
Check that igniter cable is not plugged into launcher aft electrical receptacle and that cable is attached to launcher clamp.
c. Fins — Mounted.
Check for condition of fins and proper mounting.
d. Tracking Flares — Installed.
Check security and condition of tracking flares.
e. Jumper Plug — Installed.
Check that jumper plug is installed on the launcher forward receptacle.

PYLONS WITH STORES

1. Bomb Rack Safety Pins — Installed.
2. Pylon Jettison Safety Pins — As required.
★3. Impulse Cartridges — As required.
★4. Orifice Pins — Check.

STORE	STATION					
	OUTBD		INBD		CL	
	FWD	AFT	FWD	AFT	FWD	AFT
MK-82 GP	B	B	C	C	C	C
MK-82 (Snakeye I)	B	B	C	C	C	C
MK-83 GP	—	—	C	C	C	C
MK-84 GP	—	—	—	—	C	C
MK-36 Destructor	B	B	C	C	C	C
M117 GP	B	B	C	C	C	C
GBU-10	—	—	—	—	C	C
GBU-12	B	B	C	C	C	C
M129E2	B	B	C	C	C	C
BLU-1, -27, -32(U)	A	C	C	C	C	C
BLU-1, -27, -32(F)	B	B	C	C	C	C
CBU's	B	B	C	C	C	C
LAU-3, -60, -68	B	B	C	C	—	—
SUU-25	B	B	—	—	—	—
SUU-20	—	—	—	—	C	C
150-Gal Tank	—	—	C	C	C	C
275-Gal Tank	—	—	C	C	C	C

5. Pylon Ordnance Selector — As required.

STORE	SELECTOR POSITION
BOMBS	BOMB
ROCKETS AND FLARES	RKT
SUU-20 DISPENSER	SUU-20 ( ) MER
TANK	TANK (CENTERLINE)
	TK (INBOARD)
	DISP (NOT USED)
	SPARE (NOT USED)
	TER (NOT USED)

6. Swaybraces — Tight.

With the MXU-648 Cargo Pod installed

7. Stenciled Arrows - Pointing Forward.
8. Cargo (300 lbs/max) - Secure.
   Cargo shall be arranged to keep the Pod CG within limits specified in T.O. 1F-5E-5 or T.O. 1F-5F-5.
9. Door - Closed, Fasteners Flush.

CAUTION

Only one fastener may be missing or broken on the top portion of the door and none may be missing or broken on the corners of the doors secured by nine fasteners. For Pods with three finger latches and two camlocks, all five security devices must be serviceable.

BOMBS (GP AND HIGH DRAG)

★1. Fin Assembly — X-Configuration.
★2. Fuzes — Check Recorded Settings.
   Check fuze safety devices are removed, fuze settings, and warning window as applicable.

WARNING

- M904 and M905 Fuzes: If the window in the fuze shows red (black A on red for M904E3), the fuze is unsafe and should not be touched. Call EOD personnel immediately.
- FMU Series Fuzes: Consider bomb armed if the lanyard has been disturbed from its normal position. Call EOD personnel immediately.
- FMU-113/B Fuze: Any red visible in the arming indicator window indicates the fuze is unsafe. Call EOD personnel immediately.

3. Arming Wire(s) — Installed (If Applicable).
   Check that arming wires extend approximately 1-1/2 to 2 inches beyond vane strap of noze fuzes and drive assemblies to tail fuzes.

★4. Retaining Clip(s) — Installed (If Applicable).
5. Arming Lanyard, Swivel Loop/Link — Secured in Arming Solenoid:

BOMB	FUZE		SOLENOID POSITION		
			NOSE	CENTER	TAIL
MK-82	FMU SERIES	NOSE		X	
MK-83		TAIL			X
MK-84	M904 SERIES	NOSE	X		
M117	M905/ATU-35	TAIL			X

6. (MK-82 Snakeye I).
   a. Fin Release Wire — Installed.
   ★b. FMU-54 Fuze Setting — 2.5 Seconds Minimum.
   ★c. M904E2/E3 Fuze Retaining Clip — Installed.
   d. Swivel and Loop/Link — Secured in Center Arming Solenoid.
7. (MK-36 Destructor).
   a. Fin Release Wire — Installed.
   b. Upper and Lower Arming Wires — Installed.
   c. Retaining Clips — Installed (One per arming and fin release wire).
   ★d. (MK-30) Arming Device Setting — Check.
   e. Popout Pin Arming Wire — Secured to Top Fin Link Pin, Cut Flush With Bottom Fin Surface.
   f. Swivel and Loop/Link — Secured in Center Arming Solenoid.

BOMB (GBU-10, -12 LGB)

1. Protective Nose Cover, Seeker Head Packing — Removed.
2. Detector Dome — No Damage.
   Verify that dome window is undamaged and free of cracks and scratches.
3. Seeker Head — Free to Swivel.
4. Guidance Fins — Secured; Check.
   a. GBU-10 — Yellow Stripe.
   b. GBU-12 — Orange Stripe.
5. Thermal Battery Arming Cable — Installed.
   a. GBU-10 — Secured to Right Aft Bomb Rack Swaybrace.
   b. GBU-12 — Secured to Left Forward Bomb Rack Swaybrace.
6. Thermal Battery Safetywire and Streamer — Removed.

★7. Fuzes — Check Recorded Settings.
   Check fuze safety devices are removed, fuze setting and fuze safe indication as applicable.

WARNING

- (FMU series) Consider bomb armed if lanyard has been disturbed from normal position. Call EOD personnel immediately.
- (FMU-81/B) Consider bomb armed if the safe pin is protruding through the seal plug. Call EOD personnel immediately.

8. (FMU-series) Lanyard Swivel and Link or Firing Lanyard Adjusters — Secured in Arming Solenoid:

BOMB	FUZE		SOLENOID POSITION		
			NOSE	CENTER	TAIL
GBU-10, -12	FMU-26B/B, -81/B	NOSE		X	
		TAIL			X
	M905/ATU-35	TAIL			X

★9. Wing Assembly — X-Configuration; Check.
   a. (GBU-10) Folded Wings — Check. Check folded wings are not in contact with main landing gear doors.

CAUTION

Main landing gear doors could be damaged by contact with folded wings in flight if bomb is not properly aligned on pylon.

   b. Wing Fairing Safety Pin — Installed.
   c. GBU-10 — Yellow Stripe.
   d. GBU-12 — Orange Stripe.
10. Wing Release Lanyard — Installed.
   a. GBU-10 — Secured to Left Aft Bomb Rack Swaybrace.
   b. GBU-12 — Secured to Right Aft Bomb Rack Swaybrace.
11. Wing Release Latch Safety Pin — Removed.

12. (ATU-35) Arming Wire(s) and Clip(s) — Installed.
    Arming wire(s) should extend approximately 1-1/2 to 2 inches beyond drive assembly.
13. (ATU-35/M905) Arming Wire Swivel and Link — Secured in Tail Arming Solenoid.

CBU (SUU-30 DISPENSER)

★1. Fin — X-Configuration.
2. Arming Wire/Lanyard Swivel and Link — Secured Center Arming Solenoid.

WARNING

Do not pull on battery firing device lanyard. Force greater than 15 pounds may cock the initiator and release the firing pin.

★3. FMU-56 Series Fuzes — Check Recorded Settings.
    a. Shorting/Safing Pin — Installed.
    b. Arming Timer/Seconds To Arm Switch — Set As Briefed.
    c. HOB Switch — Set As Briefed.
    d. (-56/B) Velocity Sensor Ports — Covered With Tape.
    e. (-56A/B, B/B, D/B) Pitot Tube — Retracted.

WARNING

If the pitot tube is extended, the fuze must be treated as armed. Call EOD personnel immediately.

    f. (-56A/B, B/B, D/B) ECM Switch — Set As Briefed.
★4. FMU-110/B Fuze — Check Recorded Settings.
    a. Safe Indicator — Retracted.

WARNING

If arm indicator is extended, the fuze must be treated as armed. Call EOD personnel immediately.

    b. HOB Switch — Set As Briefed.
    c. Seconds to Arm Switch — Set As Briefed.
    d. ECM Switch — Set As Briefed.
    e. Radome Nose Cap — Check.
       Reject if cracked or missing.
★5. M907 Fuze.
    a. Foil Disc — Not Punctured.
    b. Arming Time — Set As Briefed.
    c. Arming Wire Swivel and Link — Secured Center Arming Solenoid.
    d. Retaining Clip — Installed.
    e. Safety Devices — Removed.
★6. FMU-26 Series Fuzes — Check Recorded Settings.

FIRE BOMBS (BLU-1, -27, -32)

1. Arming Lanyard Swivel and Loop — Secured Center Arming Solenoid.

WARNING

The white phosphorus in the igniter liquefies at 111°F and may leak thru the filler plug if exposed to high temperatures. Leaking igniters can be determined by the presence of smoke and/or flame or by the presence of white material on the igniter. If any of these conditions is observed, notify EOD personnel immediately

2. (FMU-7/B Initiator) Safety Device — Installed.

WARNING

If pin protrudes thru hole in center of FMU-7/B fuze head or a hole is in the center of FMU-7A/B, B/B, or C/B fuze head, treat fuze as armed. Do not touch fuze. Call EOD personnel immediately.

3. Nose and Tail Caps — Installed.
★4. Fin Assembly (If installed) — X-Configuration.

LEAFLET BOMB (M129E2)

★1. Fin — X-Configuration.
2. Arming Wire Swivel and Link — Secured Center Arming Solenoid.
3. Retaining Clip — Installed.
4. M147A1 Fuze.
   a. Safety Block — In Place.
   b. Recorded Setting — Check.
   c. Safety Devices — Removed.

ROCKET LAUNCHERS (LAU-3, -60, -68)

WARNING

2.75-inch FFAR's with MK40 motors shall not be fired from LAU-3 or LAU-60 launchers.

1. Electrical Connector — Connected.
★2. Shorting Pin/Grounding Button — Installed.
   a. LAU-3/A, A/A — Shorting Pin (On Side).
   b. LAU-3B/A — Grounding Button (Forward receptacle).
   c. LAU-60/-68 — Shorting Pin (On Top Aft).

WARNING

Rockets may inadvertently fire if shorting pin/grounding button is not installed.

3. Selector Switch — SINGLE or RIPPLE.

NOTE

(LAU-68) The selector switch should be safeywired if positioned at SINGLE.

4. (LAU-3, -60) Intervalometer — Installed.
5. (LAU-68) Dial Indicator — A.
6. Rockets — Locked In Detents.
7. Contact Fingers — Touching Contact Disks.
★8. Launcher Fairings — Secure.

FLARE DISPENSER (SUU-25)

1. Electrical Connector — Connected.
2. (SUU-25A/A) Grounding Button — Installed.
   Grounding button on forward receptacle consists of a grounding button attached to a screw-on dust cap.

WARNING

If grounding button is not installed in forward electrical receptacle, the flares may be inadvertently released.

3. (SUU-25C/A, E/A) Shorting Pin — Installed.
4. Flares — Installed.

NOTE

Fuze settings cannot be visually checked after installation of flares in dispenser. Check with munitions personnel to ensure fuzes are properly set.

5. (SUU-25A/A) Dispenser Tube Safety Pins — Installed.
6. (SUU-25A/A) Explosive Detent Assemblies — Fully Seated.
   Explosive detents (two in each tube 180 degrees apart) secure flares in tube

when dispenser tube safety pins are removed prior to flight.

7. (SUU-25C/A, E/A) Shear Pins — Installed.

BOMB-ROCKET DISPENSER (SUU-20)

★1. Ⓕ Adapter — Installed.
2. Forward Electrical Connector — Connected.
3. Dispenser.
   a. Impulse Cartridges — As Required.
      Each individual dispenser bomb rack contains a cartridge chamber and holder.
   b. Cartridge Lockpins — Installed.
   c. Circuit Disconnect Safety Spring — Installed.
   d. Ejector Safety Pins — Installed.
   e. Bomb Safety Device/Block/Clip — Removed.
   f. Bombs — Checked.
      Check for security and proper type bombs at desired stations. A slight looseness of bomb is preferred to an oversnug condition.
   g. Rockets — Secured.
      Check that contact disk of each rocket is making contact with firing probe.

CAUTION

Bomb and rocket intervalometers must be turned clockwise only, or controls may be damaged.

   h. Bomb Intervalometer — As Required.
   i. Rocket Intervalometer — As Required.

WARNING

(SUU-20/A(M)) Selection of ROCKET SALVO is prohibited.

INTERIOR INSPECTION

1. Armament Switches — OFF and SAFE.
2. Select Jettison Switch — OFF.
3. Armament Circuit Breakers — Check.
4. Gun Circuit Breakers — Check In.
5. External Power — As Required.

NOTE

If external power is used, the sight and radar checks may be completed before engine start.

AFTER ENGINE START

RADAR WARNING RECEIVER SYSTEM

1. Power Button — Push On (F front cockpit only).
   The Power button illuminates (SYSTEM POWER) and lower half of ACT/PWR button illuminates (POWER) to indicate RWR system turn-on. The Rings-of-Fire are displayed sequentially after system warm-up (figure 2-1A). Refer to classified supplement T.O. 1F-5E-34-1-1-4 for description of procedures.
2. Audio Volume Knob — Adjust.
   Adjust the volume during the system test.
3. Dim Knob — Adjust.
   Adjust the indicator light brightness during the system test.
4. INT Knob — Adjust.
   Adjust the CRT intensity during the system test.
5. SYS TEST Button — Push and Hold (approximately 2 seconds).
   The SYS TEST button illuminates (ON). The band 1, and 2, and 3 displays appear on the azimuth indicator in sequence (figure 2-1B). The display time for each band is approximately 1.3 seconds. The diamond shifts to each number and the audio tone changes as the diamond encloses each number. The relative azimuth of each number enclosed by the diamond is displayed at bottom of CRT.
6. Launch or ACT/PWR Button — Push On.
   Pushing either Launch or ACT/PWR button within 1.5 seconds of band 3 display completion causes the launch button to illuminate (MISSILE LAUNCH) and ACT/PWR button to illuminate (ACTIVITY). A flashing circle is displayed in the center of the CRT. One missile launch audio is heard.
7. Power Button — As Required.

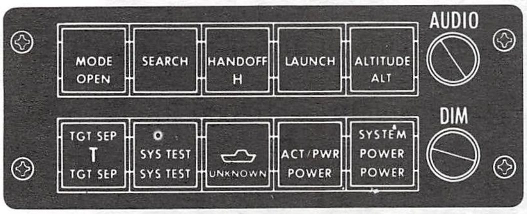
CAMERA CHECK

1. Camera Run Switch — Press and Hold (1 Sec).
   Advances film so that first frame is clear when required.

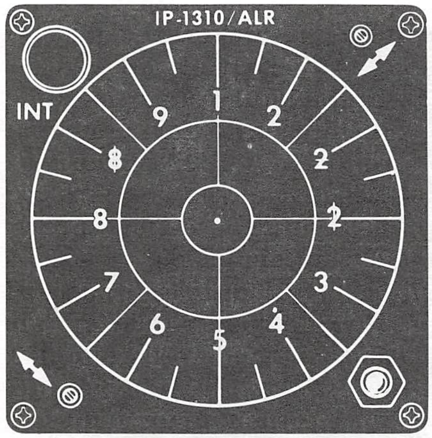
SIGHT CHECK

The sight check procedure (figures 2-2 and 2-3) provide BIT check to determine go/no-go status of each mode of operation by correct reticle display indications. In addition, the procedures include a check of manual mode depression angle setting (confidence check), and operation of dogfight control, sight cage switch, and resume search control by correct reticle displays. The readout of the depression angle setting allows for sight system tolerances.

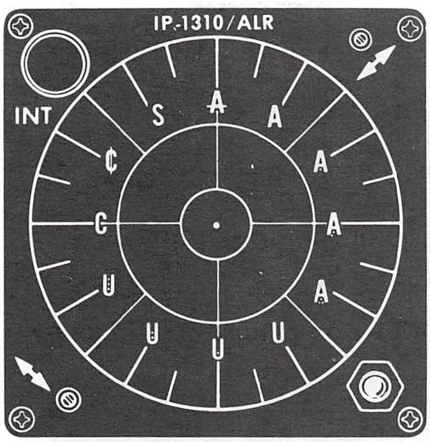
RADAR WARNING RECEIVER RINGS-OF-FIRE



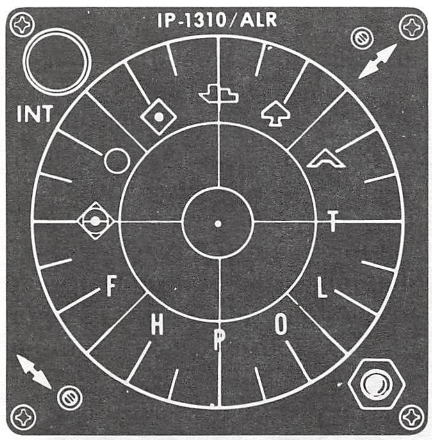
INDICATOR CONTROL DURING RINGS-OF-FIRE



RING 1



RING 2

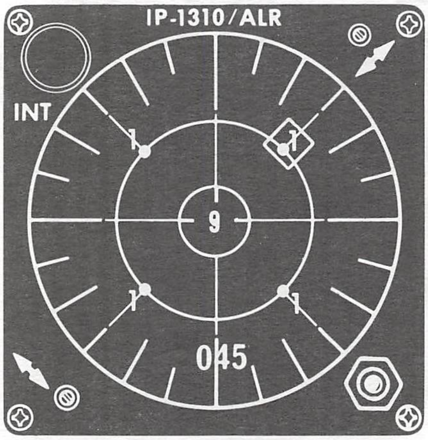


RING 3

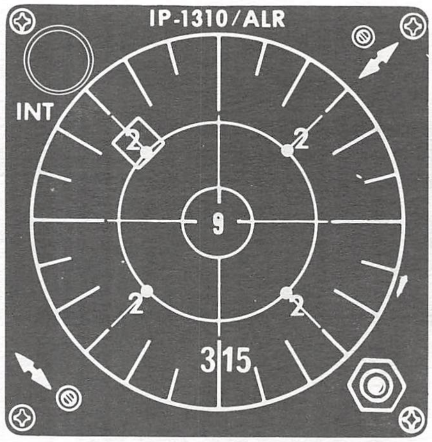
F-5 34-209(2)

Figure 2-1A.

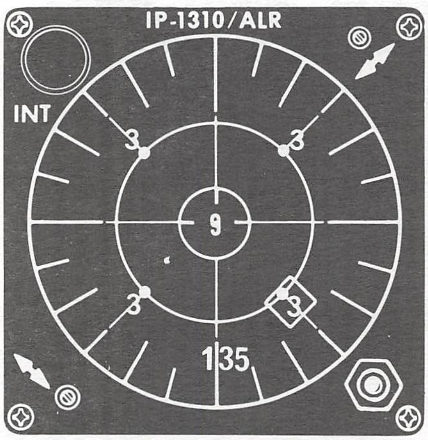
RADAR WARNING RECEIVER BIT DISPLAYS (TYPICAL)



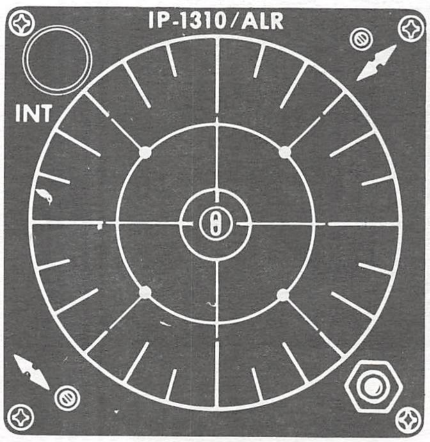
BAND 1



BAND 2



BAND 3



MISSILE LAUNCH

F-5 34-128(2)A

Figure 2-1B.

SIGHT CHECK

Note

AN IN-RANGE MARKER AND A RANGE BAR AT APPROXIMATELY 2:30 O'CLOCK ARE A "GO" INDICATION IN BOTH BIT SWITCH POSITIONS FOR ALL MODES. A MINIMUM RANGE MARKER IS A "FAIL" EXCEPT IN MAN BIT 1, WHEN ALL EVENT MARKERS ARE ON. THE RETICLE MOVES DOWN AND LEFT IN BOTH BIT POSITIONS FOR ALL MODES EXCEPT MSL, WHERE PIPPER MOVES DOWN APPROXIMATELY 1 MIL FROM CAGED POSITION (ARL).

1. MODE SELECTOR — MAN.

Note

A 5-MINUTE WARMUP PERIOD IS REQUIRED TO OBTAIN PROPER GYRO OPERATION FOR GUNS MODES BIT CHECKS. A WARMUP PERIOD IS NOT NEEDED FOR OPERATION IN THE MANUAL AND MISSILE MODES.

2. RET INT KNOB — ADJUST INTENSITY.
3. BIT SWITCH; BIT 1, BIT 2 — CHECK RETICLE.
4. RET DEPR KNOB — ADJUST TO ALIGN PIPPER WITH LINE OF SIGHT BETWEEN TOP OF CAMERA PERISCOPE AND JUNCTION OF PITOT BOOM AND RADOME. READOUT WINDOW SHOULD READ APPROXIMATELY:
   (E) 182 ±8 MILS
   (F) 196 ±8 MILS
5. SIGHT CAGE SWITCH — PRESS & HOLD. RETICLE SHOULD MOVE UP TO ARL, RETURN TO POSITION SELECTED IN STEP 4 AS THE SWITCH IS RELEASED.
6. DOGFIGHT BUTTON — MOM PRESS. RETICLE SHOULD MOVE UP TO NEAR ARL.
7. BIT SWITCH; BIT 1, BIT 2 — CHECK RETICLE.
8. RESUME SEARCH BUTTON — MOM PRESS. RETICLE SHOULD MOVE DOWN TO POSITION SELECTED IN STEP 4.
9. RET DEPR KNOB — SET TO 000.
10. MODE SELECTOR — A/A2.
11. BIT SWITCH; BIT 1, BIT 2 — CHECK RETICLE.
12. MODE SELECTOR — A/A1.
13. BIT SWITCH; BIT 1, BIT 2 — CHECK RETICLE.
14. MODE SELECTOR — MSL.
15. BIT SWITCH; BIT 1, BIT 2 — CHECK RETICLE.
16. MODE SELECTOR — AS REQUIRED.

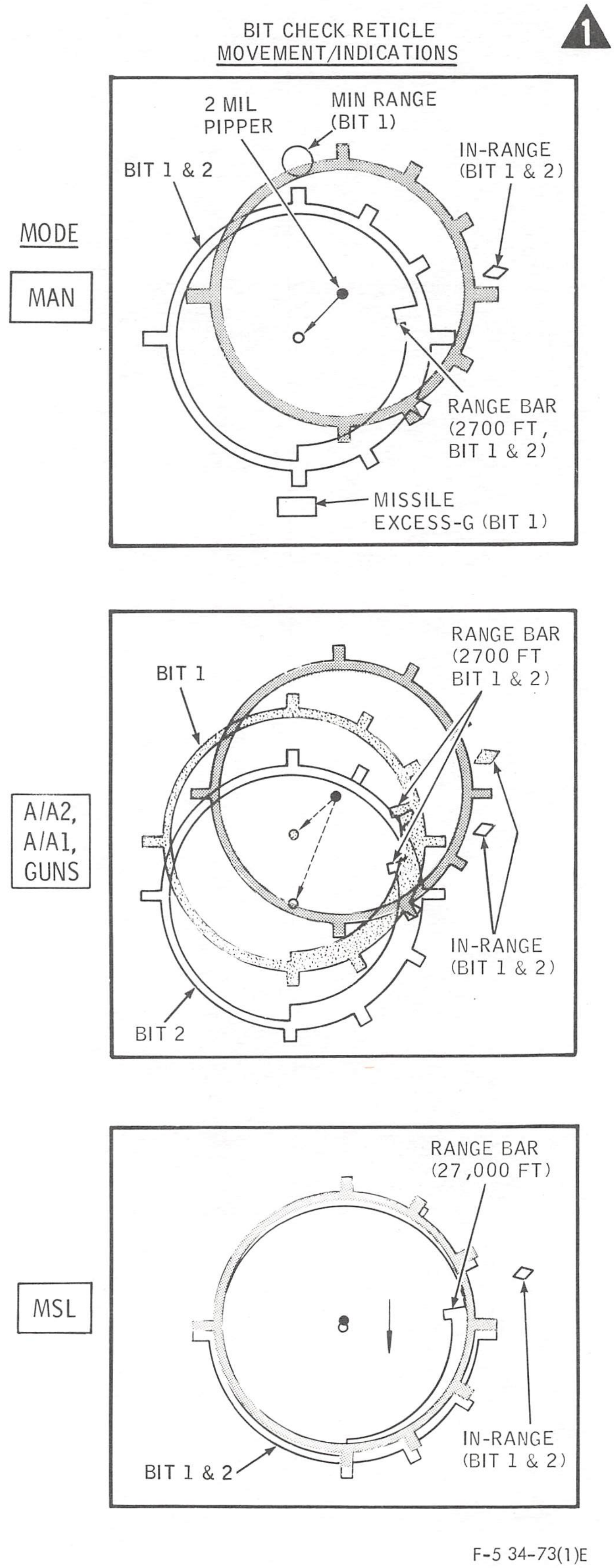


Figure 2-2.

SIGHT CHECK

Note

AN IN-RANGE MARKER AND A RANGE BAR AT APPROXIMATELY 2:30 O'CLOCK ARE A "GO" INDICATION IN BOTH BIT SWITCH POSITIONS FOR ALL MODES. A MINIMUM RANGE MARKER IS A "FAIL" EXCEPT IN MAN BIT 2, WHEN ALL EVENT MARKERS ARE ON. THE RETICLE MOVES DOWN AND LEFT IN BOTH BIT POSITIONS FOR ALL MODES EXCEPT MSL AND DM WHERE PIPPER MOVES DOWN APPROXIMATELY 1 MIL FROM CAGED POSITION (ARL).

1. MODE SELECTOR – MAN.

Note

A 5-MINUTE WARMUP PERIOD IS REQUIRED TO OBTAIN PROPER GYRO OPERATION FOR GUNS MODES BIT CHECKS. A WARMUP PERIOD IS NOT NEEDED FOR OPERATION IN THE MANUAL AND MISSILE MODES.

2. RET INT KNOB – ADJUST INTENSITY.
3. BIT SWITCH; BIT 1, BIT 2 – CHECK RETICLE.
4. RET DEPR KNOB – ADJUST TO ALIGN PIPPER WITH LINE OF SIGHT BETWEEN TOP OF CAMERA PERISCOPE AND JUNCTION OF PITOT BOOM AND RADOME. READOUT WINDOW SHOULD READ APPROXIMATELY
   - Ⓔ 182 ±8 MILS
   - Ⓕ 196 ±8 MILS
5. SIGHT CAGE SWITCH – PRESS & HOLD. RETICLE SHOULD MOVE UP TO ARL, RETURN TO POSITION SELECTED IN STEP 4 AS THE SWITCH IS RELEASED.
6. DOGFIGHT/RESUME SEARCH SWITCH – AFT (DG) MOM. RETICLE SHOULD MOVE UP TO NEAR ARL.
7. BIT SWITCH; BIT 1, BIT 2 – CHECK RETICLE.
8. DOGFIGHT/RESUME SEARCH SWITCH – FORWARD (DM) MOM. RETICLE SHOULD MOVE DOWN SLIGHTLY BELOW ARL.
9. BIT SWITCH; BIT 1, BIT 2 – CHECK RETICLE.

Note

SELECTING EITHER BIT 1 OR BIT 2 CAUSES VERY SLIGHT PIPPER DROP.

10. DOGFIGHT/RESUME SEARCH SWITCH – CENTER (DF RELEASE) MOM PRESS. RETICLE SHOULD MOVE DOWN TO POSITION SELECTED IN STEP 4.
11. RET DEPR KNOB – SET TO 000.
12. MODE SELECTOR – A/A2.
13. BIT SWITCH; BIT 1, BIT 2 – CHECK RETICLE.
14. MODE SELECTOR – A/A1.
15. BIT SWITCH; BIT 1, BIT 2 – CHECK RETICLE.
16. MODE SELECTOR – MSL.
17. BIT SWITCH; BIT 1, BIT 2 – CHECK RETICLE.
18. MODE SELECTOR – AS REQUIRED.

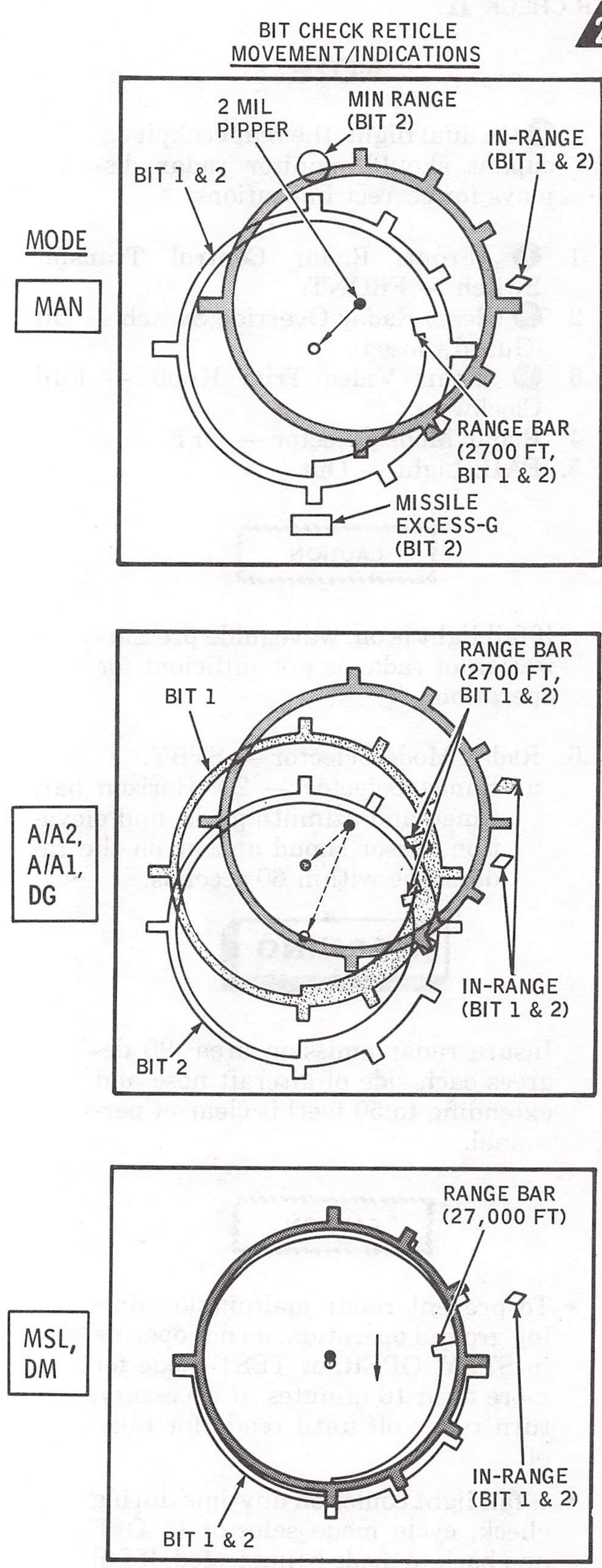


Figure 2-3.

FCR CHECK ⚠1

NOTE

Ⓕ On dual flight, the rear cockpit occupant should monitor radar displays for correct indications.

1. Ⓕ (Front) Radar Control Transfer Switch — FRONT.
2. Ⓕ (Rear) Radar Override Switch — Off (Guard Closed).
3. Ⓕ (Rear) Video Trim Knob — Full Clockwise.
4. Radar Mode Selector — OFF.
5. FAIL Light — Out.

CAUTION

If fail light is on, waveguide pressurization of radar is not sufficient for operation.

6. Radar Mode Selector — STBY.
   a. Range Selector — 20. Horizon bar, range and azimuth grids, and elevation cursor shoud appear on the radarscope within 60 seconds.

WARNING

Insure radar emission area (90 degrees each side of aircraft nose and extending to 50 feet) is clear of personnel.

CAUTION

- To prevent radar malfunction during ground operation, do not operate in STBY, OPER, or TEST mode for more than 10 minutes. If necessary, turn radar off until ready for takeoff.
- If fail light comes on anytime during check, cycle mode selector to OFF and back to mode being tested. If fail light remains on, turn radar off.

7. Radarscope Horizon Bar — Matches Horizon Bar on AI/ADI.
8. Sight Mode Selector — MSL.
9. Radar Mode Selector — OPER.
   The search phase can be activated after a 3- to 5-minute warmup in STBY or after 3 to 5 minutes after going directly from OFF to OPER.
   a. Resume Search Button — Press Momentarily.
   b. Radarscope Controls — Adjust As Required.
   c. B-Sweep — Check ±42.5° Azimuth; Left 3° Down; Right 3° Up.
      Elevation Cursor Indicating 3° Steps.
   d. Elevation Antenna Tilt Control — Cursor Up +30° and Down -30°. Set at 0°.
10. Radar Mode Selector — TEST.
    a. Test Target — 2000 Ft, Moving with B-Sweep ±42.5°.
11. ACQ Button — Press and Hold.
    a. B-Sweep — 20° Left.
    b. Elevation Cursor — 0° (Indicates ARL).
    c. Pitch Knob — Horizon Bar 2° above ARL (1° below with nose gear hiked).
    d. Range Gate Slews From Bottom to Top.
    e. Range Scale Light — 10.
12. ACQ Button — Release.
    a. LK ON Light — On.
       If lock-on not obtained, turn video knob clockwise to increase video.
    b. FAIL Light — Out.

NOTE

If fail light is on, range tracking is not accurate.

   c. IN RANGE Light — On.
      Steady — With Missile Select Switch at AIM-9E or AIM-9J.
      Flashing — With Missile Select Switch at AIM-9B.
   d. Sight Reticle — Range Bar 2000 Ft.
      In-Range Marker — On (With Missile Select Switch at AIM-9E or AIM-9J).
      Min-Range Marker — On (With Missile Select Switch at AIM-9B).
   e. Radar Steering Bar — Centered.

13. Sight Mode Selector — MAN.
    a. Sight Reticle — Range Bar 2000 Ft.

NOTE

Changing to MAN mode the radar may break lock-on and relock-on to other than the test target. The fail light comes on.

14. Resume Search Button — Press Momentarily.
    a. Radar Breaks Lock-on.
    b. Elevation Cursor — Set as Required.
15. Dogfight Button — Press Momentarily.
    a. Test Target — Disappears.
    b. B-Sweep — 20° Left.
    c. Range Scale Light — 5.
    d. Range Gate Slews From Bottom to Approximately 1 Mile Range.
16. Resume Search Button — Press Momentarily.
17. Sight Mode Selector — A/A1.
18. ACQ Button — Press Momentarily.
    a. Test Target — Disappears.
    b. B-Sweep — 20° Left.
    c. Range Scale Light — 5.
    d. Range Gate Slews From Bottom to Approximately 1 Mile Range.
19. Resume Search Button — Press Momentarily.
20. Radar Mode Selector — As Required.

FCR CHECK A

NOTE

F On dual flight, the rear cockpit occupant should monitor radar displays for correct indications.

1. F (Front) Radar/Reconnaissance Transfer Switch — FWD.
2. F (Rear) Radar/Reconnaissance Override Switch — Off (Guard Closed).
3. F (Rear) Video Trim Knob — Fully Clockwise.
4. Radar Mode Selector — OFF.
    a. FAIL Light — Out.

CAUTION

If fail light comes on, waveguide pressurization of radar is not sufficient for operation.

5. Radarscope Controls — Set.
    a. Scale Knob — Fully Counterclockwise.
    b. Video Knob — Fully Counterclockwise.
    c. Cursor Knob — Fully Clockwise.
    d. PER Knob — Fully Clockwise.
    e. Bright Knob — Fully Clockwise.
    f. Pitch Knob — Set at Index Mark.
6. Dogfight/Resume Search Switch — Press Momentarily.
7. Radar Mode Selector — STBY.
    a. Range Selector — 20. Horizon bar, acquisition symbol, and elevation cursor should appear on the radar scope within 60 seconds.

WARNING

Insure radar emission area (90° each side of aircraft nose and extending to 50 feet) is clear of personnel.

CAUTION

- To prevent radar malfunction during ground operation, do not operate in STBY, OPER, or TEST mode for more than 10 minutes. If necessary, turn radar off until ready for takeoff.
- If fail light comes on anytime during check, cycle mode selector to OFF and back to mode being tested. If fail light remains on, turn radar off.

NOTE

No acquisition symbol display in 40-mile range.

8. Sight Mode Selector — MSL.
9. Radarscope Controls — Adjust:
   a. Scale Knob — Turn Clockwise until Grid Lines are Visible.
   b. Pitch Knob — Set Horizon Bar 2° Above ARL Mark, (1° Below with Nose Gear Hiked).
   c. Cursor Knob — Adjust for Optimum View of Symbols.

NOTE

A different cursor adjustment is required for day or night operation.

   d. Bright Knob — Turn Counterclockwise To Obtain Optimum Brightness of Display.
10. Radar Mode Selector — OPER. The search phase can be activated after a 3- to 5-minute warmup in STBY or after 3 to 5 minutes after going directly from OFF to OPER.
    a. FAIL Light — Out.
    b. PER Knob — Turn Counterclockwise To Obtain Elevation Cursor Stepping.
    c. Video Knob — Turn Clockwise To Obtain Optimum Video Noise Display (figure 2-4).

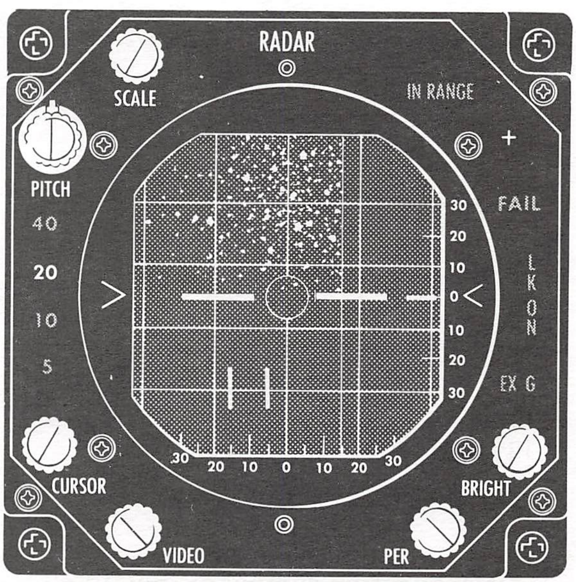


Figure 2-4.

   d. **F** (Rear) Video Trim Knob — Adjust To Match Front Video Noise Display.
   e. B-Sweep — Check ±42.5° Azimuth, Left 3° Down; Right 3° Up. Elevation Cursor Indicating 3° Step.
   f. Elevation Antenna Tilt Control — Elevation Cursor Up +30°, Down -30°, Set at 0.
11. Radar Mode Selector — TEST.
    a. Test Target — 2000 Ft, Moving with B-Sweep ±42.5°.
    b. Elevation Cursor — Up +30°.
12. TDC Button — Position Acquisition Symbol at 2000 Ft Range.
13. ACQ Button — Press and Hold.
    a. B-Sweep — Stows at Acquisition Symbol.
    b. Range Scale Light — 10.
14. ACQ Button — Release.
    a. LK ON Light — On. If lock-on not obtained, turn video knob clockwise to increase video.
    b. FAIL Light — Out.

NOTE

If fail light comes on, range tracking is not accurate.

    c. IN RANGE Light — On. Steady — With Missile Select Switch at AIM-9E or AIM-9J. Flashing — With Missile Select Switch at AIM-9B.
    d. Aim Symbol — Moves Clockwise Around Steering Circle.
    e. Compressed B-Sweep — 20° Left.
    f. Sight Reticle — Range Bar 2000 Ft. Pipper Moves in Same Direction and at Same Rate as Aim Symbol. In-Range Marker — On (With Missile Select Switch at AIM-9E or AIM-9J). Min-Range Marker — On (With Missile Select Switch at AIM-9B).
15. Sight Cage Switch — Press and Hold, then Release.
    a. Sight Reticle — Caged (on ARL). Resumes Motion as Switch is Released.

16. Dogfight/Resume Search Switch — Forward (DM) and Hold, then Release.
    a. Sight Reticle — Stabilized.
    b. Range Gate — Stows at Min Range, slewing out to 5-mile range as switch is released.
    c. Elevation Cursor — 0°.

NOTE

In DM/DG test, target lock-on is not necessary and FAIL advisory could come on.

17. Dogfight/Resume Search Switch — Aft (DG) and Hold, then Release.
    a. Range Gate — Stows at Min Range, slewing to approximately 1-mile range as switch is released.
    b. Elevation Cursor — Down -4.7°.
    c. Range Scale Light — 5.
18. Sight Cage Switch — Press and Hold, then Release.
    a. Elevation Cursor — Up to ARL, Returns to -4.7° as switch is released.
    b. Sight Reticle — Caged Position.
19. Dogfight/Resume Search Switch — Press Momentarily.
20. Radar Mode Selector — As Required.

RADAR VIDEO TRIM AND ELEVATION CURSOR ADJUSTMENT (DUAL FLIGHT) Ⓕ

1. (Front) Radar Control or Radar/Reconnaissance Transfer Switch — FRONT/FWD.
2. (Rear) Radar or Radar/Reconnaissance Override Switch — Off (Guard Closed).
3. Radar Mode Selector — STBY.
4. Radarscope Controls — Adjust.
5. Radar Mode Selector — OPER.
6. (Front) Elevation Cursor — Set at 0°.
7. (Front) Pitch Knob — Horizon Bar 2° above ARL (1° below with nose gear hiked).
8. (Front) Video Knob — Set to Optimum Video Display.
9. (Rear) Video Trim Knob — Set to Match Front Cockpit Display.

NOTE

(Rear) No further inflight adjustment of video trim should be required.

10. (Front) Radar Control or Radar/Reconnaissance Transfer Switch — REAR/AFT.
11. (Rear) Elevation Cursor — Set at 0° (If Necessary).
12. (Rear) Pitch Knob — Horizon Bar Adjust (If Necessary).
13. (Rear) Video Knob — Set to Optimum Video Display.
14. (Front) Radar Control or Radar/Reconnaissance Transfer Switch — As Required.

ARMING AREA

WARNING

For arming, ensure that aircraft is headed toward a clear area when carrying forward firing weapons.

1. Aircrew — Hands In View.
   Both hands must be in view as a signal to armament crews to approach aircraft.
2. Arming — Completed.
3. ⚠ External Stores Jettison T-handle Safety Pin — Removed.

INFLIGHT PROCEDURES

FCR

BEFORE MISSILE/GUN ATTACK

1. (F) (Front) Radar Control or Radar/Reconnaissance Transfer Switch — As Required.
2. Radar Mode Selector — OPER.

CAUTION

If FAIL light comes on in flight, turn radar mode selector OFF. If light goes out, return to STBY or OPER. If FAIL light remains on turn radar off for duration of flight.

3. Sight Mode Selector — As Required.
4. Resume Search Button or Dogfight/Resume Search Switch — Press Momentarily.
5. Range Selector — As Required.
6. Video Knob — Set at Optimum Display.

RADAR WARNING RECEIVER

BEFORE DETECTION

1. Power Button — Push On ((F) front cockpit only).
   The Power button illuminates (SYSTEM POWER) and lower half of ACT/PWR button illuminates (POWER) to indicate RWR system turn-on.

DETECTION

1. Azimuth Indicator — Monitor.
2. Indicator Control Lights — Monitor.
3. Indicator Control Buttons — As Required.

GUNS, AIR-TO-AIR

BEFORE FIRING

1. Sight Mode Selector — A/A1 or A/A2.
2. Radar Mode Selector — OPER.
3. ACQ Button — Press Momentarily.
4. ⚠ Dogfight Button — Press Momentarily (if necessary).
5. ⚠2 Dogfight/Resume Search Switch — AFT (DG) Momentarily (if necessary).
6. LK ON Light — On.
7. Sight Reticle — Range Bar Extends Counterclockwise.

NOTE

Selecting the dogfight gun mode causes the sight to function in A/A1 mode.

8. ⚠ Guns and Camera Switch — GUNS & CAMR.
9. ⚠2 Guns, Missile and Camera Switch — GUNS, MSL & CAMR.

WARNING

For safety reasons, selection of GUNS & CAMR/GUNS, MSL & CAMR should not be accomplished until just prior to firing.

10. Sight Reticle — In-Range Marker On.

FIRING

1. Trigger — Squeeze (Second Detent).

CAUTION

- (F) A gun jam due to link stacking may occur with approximately 15 rounds remaining if the full ammunition load is fired out.
- Rapid intermittent firing is not recommended, as ammunition belt separation may occur.

NOTE

Firing burst should be limited to no more than 3 seconds (approximately 75 rounds) with a 1-minute cooling period between bursts.

GUNS, AIR-TO-GROUND

BEFORE FIRING

1. Sight Mode Selector — MAN.
2. Sight Depression — Set Computed Depression.
3. ⚠ Guns and Camera Switch — GUNS & CAMR.
4. ⚠ Guns, Missile and Camera Switch — GUNS, MSL & CAMR.

FIRING

1. Trigger — Squeeze (Second Detent).

WARNING

To avoid possible engine and aircraft FOD from HEI detonation, slant ranges sufficient to permit flyover of the fragmentation cloud above 300 feet AGL are mandatory.

CAUTION

Rapid intermittent firing is not recommended, as ammunition belt separation may occur.

NOTE

Firing burst should be limited to no more than 3 seconds (approximately 75 rounds) with a 1-minute cooling period between bursts.

MISSILE (AIM-9, -9 CAPTIVE)/ ROCKET (TDU-11/B)

TARGET SEARCH AND RANGING

1. Radar Mode Selector — OPER.
2. Range Selector — As Required.
   Adjust antenna elevation as required to cover target position per GCI instructions or visual contact.
3. Sight Mode Selector — MSL.
4. ⚠ TDC Button — Position Acquisition Symbol over Target.
5. ACQ Button — Press Momentarily.
6. LK ON — On.

BEFORE LAUNCH

1. Wingtip Armament Position Selector Switch(es) — As Required.
   For sequence firing of the left wingtip weapon followed by the right weapon, both wingtip armament position selector switches must be in the up position.
2. Missile Audio Tone — Checked.
   Adjust volume control until background tone of selected missile is barely audible. If time and circumstances permit, boresight each missile and check that tone intensity and volume vary with changes in infrared radiation in the seeker gyro field of view.

NOTE

To obtain the right missile audio tone, place left wingtip armament position selector switch OFF and right wingtip armament position selector switch at up position.

3. ⚠ External Stores Selector — AIM-9.
4. ⚠ Guns, Missile and Camera Switch — GUNS, MSL & CAMR.
5. ⚠ External Stores Selector — SAFE (Detent).
6. ⚠ Dogfight/Resume Search Switch — Forward (DM) Momentarily (if necessary).
7. Select Jettison Switch — Check OFF.
8. Missile Audio Tone — Check.

NOTE

Track target long enough to check missile tone for contrast between background and target radiation to ensure that target is within the field of view of the seeker gyro.

9. Missile Uncage Switch — Press and Hold (As Required).

LAUNCH

See Section VI for AIM-9B/B-1 missile launch parameters. Refer to applicable classified supplement (see Foreword) for other AIM-9 series missile launch parameters.

With Radar Lock-on

1. In-Range Light (Sight or Radar Indicator) — On.
2. Excess-g Light (Sight or Radar Indicator) — Out.

With/Without Radar Lock-on

3. Weapon Release Button — Press. Keep weapon release button pressed until missile departs launcher rail.

NOTE

- If the weapon release button is not held pressed until the missile departs the launcher rail the possibility exists of activating the guidance and control unit without igniting the rocket motor. If this occurs, that missile cannot be subsequently fired. If this occurs on the left wingtip missile, when the weapon release button is released, the firing circuit automatically transfers to the right wingtip launcher, provided the right wingtip armament position selector switch is up. If it is determined that an installed missile should not be fired due to a malfunction (e.g., no missile tone), use the wingtip armament position selector switches to transfer the firing circuits to the good missile.

With AIM-9 Captive

4. Firing Circuit — Recycle.
   a. Wingtip Armament Position Selector Switch(es) — OFF.
   b. ⚠1 External Stores Selector Switch — SAFE, then to AIM-9.
   c. ⚠2 Guns, Missile and Camera Switch — OFF, then to GUNS MSL & CAMR.
   d. Wingtip Armament Position Selector Switch(es) — ON.

BOMBS (GP, LGB, HIGH DRAG, AND LEAFLET), CLUSTER BOMBS, AND FIRE BOMBS

BEFORE RELEASE

1. ⚠2 Dogfight/Resume Search Switch — Press Momentarily.
2. Sight Mode Selector — MAN.
3. Sight Depression — Set Computed Depression.
4. Bombs Arm Switch — As Required.

BOMB	FUZE		BOMBS ARM SWITCH POSITION: SAFE	NOSE	NOSE & TAIL	TAIL
MK-82	FMU	NOSE	DUD	ARMED	ARMED	DUD
MK-83		TAIL	DUD	DUD	ARMED	ARMED
MK-84	M904	NOSE	DUD	ARMED	ARMED	DUD
M117	M905	TAIL	DUD	DUD	ARMED	ARMED
GBU-10 GBU-12	FMU-26 FMU-81	NOSE	DUD	ARMED	ARMED	DUD
		TAIL	DUD	DUD	ARMED	ARMED
	M905	TAIL	DUD	DUD	ARMED	ARMED
MK-82 SE	M904	NOSE	LD DUD	ARMED	ARMED	LD DUD
	FMU-54	TAIL	LD DUD	ARMED	ARMED	LD DUD
MK-36	MK-30/32	NOSE	LD DUD	ARMED	ARMED	LD DUD
M129E2	M147	NOSE	DUD	ARMED	ARMED	DUD
CBU	M907	NOSE	DUD	ARMED	ARMED	DUD
	FMU	NOSE	DUD	ARMED	ARMED	DUD
BLU	FMU-7	NOSE	DUD	ARMED	ARMED	DUD
		TAIL	DUD	ARMED	ARMED	DUD

LEGEND:
BLU — BLU-1, -27, -32
CBU — CBU-24, -49, -52, -58, -71
LD — LOW DRAG (FINS REMAIN CLOSED)

5. Armament Position Selector Switch(es) — As Required.
6. External Stores Selector — BOMB.
7. Interval Switch — As Required.
8. Select Jettison Switch — Check OFF.

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RELEASE

1. Weapon Release Button — Press.

WARNING

(MK-82 Snakeye I and MK-36) To provide a margin of safety in the event of retarding fin failure resulting in a low-drag bomb trajectory, a 4.0 g pullup or a 4.0 g banked turn escape maneuver should be executed immediately after bomb release.

CAUTION

Speed brake should be IN for release of stores from the CL position within certain ranges of airspeed. Refer to the flight manual for the stores release limits.

ROCKET LAUNCHERS (LAU-3, -60, -68)

BEFORE FIRING

1. ⚠ Dogfight/Resume Search Switch — Press Momentarily.
2. Sight Mode Selector — MAN.
3. Sight Depression — Set Computed Depression.
4. Armament Position Selector Switch(es) — As Required.
5. External Stores Selector — RKT/DISP.
6. Select Jettison Switch — Check OFF.

FIRING

WARNING

Following a normal release, all rocket launchers should be considered as still containing one or more rockets unless visual examination positively confirms a safe condition.

1. Weapon Release Button — Press.
   When rockets are ripple fired, the weapon release button must be pressed for 1/2 second to ensure fire-out of all rockets.

FLARE DISPENSER (SUU-25)

BEFORE RELEASE

1. ⚠ Dogfight/Resume Search Switch — Press Momentarily.
2. Armament Position Selector Switch(es) — As Required.
3. External Stores Selector — RKT/DISP.
4. Select Jettison Switch — Check OFF.

RELEASE

1. Weapon Release Button — Press.

BOMB-ROCKET DISPENSER (SUU-20)

BEFORE FIRING/RELEASE

1. ⚠ Dogfight/Resume Search Switch — Press Momentarily.
2. Sight Mode Selector — MAN.
3. Sight Depression — Set Computed Depression.
4. CL Armament Position Selector Switch — Up.
5. External Stores Selector.
   a. Rockets — RKT/DISP.
   b. Bombs — BOMB.
6. Select Jettison Switch — Check OFF.

FIRING/RELEASE

1. Weapon Release Button — Press.
   For ripple fire/release, the weapon release button must be pressed for 1/2 second to ensure fire-out of all rockets or all bombs.

ARMAMENT SAFETY CHECK

As soon as practicable after firing, launch, or release of weapons, the following safety check will be completed.

1. Guns - Camera/Guns, Missile and Camera Switch — OFF (Guard Closed).
2. Bombs Arm Switch — SAFE.
3. Armament Position Selector Switches — OFF.
4. External Stores Selector — SAFE (Detent).
5. Sight Mode Selector — OFF.
   Rotate sight reticle brightness control to full counterclockwise position.
6. AIM-9 Missile Volume Knob — Rotate Counterclockwise.

BEFORE LANDING

RADAR WARNING RECEIVER

1. (F Front cockpit) Power Button — Push Off.

POSTFLIGHT PROCEDURES

AFTER LANDING

FCR

1. ⚠2 Dogfight/Resume Search Switch — Press Momentarily.
2. Radar Mode Selector (Ⓕ Both Cockpits) — OFF.

WARNING

To prevent injury to ground personnel, ensure that radar is off.

DEARMING AREA

WARNING

For dearming, ensure that aircraft is headed toward a clear area when carrying forward firing weapons.

1. ⚠ External Stores Jettison T-handle Safety Pin — Installed.
2. Aircrew — Hands in View.
   Both hands must be in view as a signal to armament crews to approach aircraft.
3. Dearming — Completed.

BEFORE ENGINE SHUTDOWN

1. (AIM-9) Dome Cover — Check Installed.

BEFORE LEAVING AIRCRAFT

1. Missile Forms — Complete (If Applicable).

TOW TARGET PROCEDURES

EXTERIOR INSPECTION

CENTERLINE PYLON

1. Impulse Cartridges — Not Installed.

WARNING

To prevent inadvertent or intentional jettison, cartridges must not be installed. Dart tow rig will not clear aircraft if jettisoned.

2. Ordnance Selector — SUU-20( ) MER.
3. Tow Reel Pod — Condition.
4. Electrical Connector — Connected.
5. Cable Cutter Electrical Connectors — Connected.
6. Tow Cable — Safetywired to End of Pod.
7. Nylon Rope Leader — Routed and Attached.

CAUTION

- Nylon rope leader must be secured left of arresting hook on bottom of fuselage and on underside of left horizontal tail with cloth tape.
- Excess nylon rope is routed along edge of lower target wing and secured with safety wire.

LEFT OUTBOARD PYLON

8. Impulse Cartridges — Not Installed.
9. Ordnance Selector — TER.
10. Dart, Adapter, and Launcher — Condition.

★11. Bridle Loop (Dart) — Attached.
Ensure that nylon rope leader is tied to the bridle loop, and bridle loop is taped to upper inboard wing of target.

★12. Target Launcher Swaybrace Pads — Tight.
Ensure swaybraces are holding dart firmly but not warping wings. Apply pressure at rear of dart to check for excessive lateral movement and overall security.

★13. Target Sliding Balance Weight — Secured.

14. Target Nose Pin Guide — Engaged.

CAUTION

Lower target stop in nose guide set at red index mark.

15. Target Carrier Boom — Secure.
16. Electrical Connector — Connected.

AFTER ENGINE START

1. Aileron Clearance — 1 Inch (Minimum).

NOTE

- After engine start, check clearance between left aileron and swaybrace locking bolts on left pylon at full aileron deflection.
- To prevent damage to target during taxi and takeoff, rough taxiways and runways should be avoided.

BEFORE TAKEOFF

To Prepare Dart Release/Jettison Circuits

1. ⚠ Dogfight/Resume Search Switch — Press Momentarily.
2. External Stores Selector — BOMB.
3. LO Armament Position Selector Switch — Up.
4. CL Armament Position Selector Switch — Up.
5. Select Jettison Switch — Check OFF.

TAKEOFF

1. To Computed Aft Stick Speed — Add 15 Kt.
2. To Computed Takeoff Speed — Add 25 Kt.
3. To Computed Takeoff Ground Run Distance — Add 40%.

WARNING

If pylon tank is to be jettisoned, the Dart shall be released first before jettisoning tank, to prevent critical asymmetrical flight characteristic.

CAUTION

High rates of rotation or extreme nose-high attitudes during takeoff may result in the target striking the runway.

NOTE

Refer to Appendix in applicable flight manual for Minimum Safe Single-Engine Takeoff Speed information and Section III of this manual for Dart Target Jettison Procedures During Takeoff.

AFTER TAKEOFF

1. External Stores Selector — SAFE.
2. Armament Position Selector Switches — OFF.

CLIMB AND CRUISE

With Target Stowed

1. Climb Airspeed (Maximum Range): Flaps Up — 305 KIAS.

CAUTION

Avoid abrupt control inputs to prevent target slamming into stops.

2. Maximum Airspeed (Target Stowed) — 310 KIAS.

NOTE

- Acceleration limits are +1.5 g to 0 g.
- Minimum airspeed for good handling characteristics with maneuver flaps and an aircraft gross weight of 15,500 pounds is 190 KIAS. Subtract 8 knots for each 1000 pounds below 15,500.

TARGET LAUNCH

BEFORE TARGET LAUNCH

CAUTION

Do not launch target if damage on takeoff is suspected. See Landing With Target Stowed procedures, this section.

1. Altitude — 3000 Feet (Minimum AGL).
2. Flaps — Maneuver/AUTO.
3. Speed Brake and Gear — UP.
4. External Stores Selector — BOMB.
5. LO Armament Position Selector Switch — Up.
6. CL Armament Position Selector Switch — Check OFF.
7. Select Jettison Switch — Check OFF.
8. Airspeed — 190 to 220 KIAS.

LAUNCH AND UNREELING

1. Weapon Release Button — Press.

After Target Launch

2. Airspeed — 190 to 220 KIAS.
   Maintain level unaccelerated flight during unreeling. Unreeling time may require as much as 3 minutes.
3. LO Armament Position Selector Switch — OFF.
4. External Stores Selector — SAFE (Detent).

UNREELING COMPLETED

1. Flaps — Up.
2. Climb Airspeed (Maximum Range) — 305 KIAS.
3. Cruise Airspeed (Maximum Range) — As Required.
   Refer to Appendix in applicable flight manual for airspeed, time, and NM/LB.
4. Maximum Airspeed (Target in Tow) — 450 KIAS or 0.85 IMN, Whichever Is Less.

NOTE

- Refer to applicable flight manual for acceleration limits.
- Refer to Appendix in applicable flight manual for Dart Target Flight Performance Data.
- Minor trim changes are required after unreeling completed.

TARGET DROP

Return of the target to the designated recovery area should be accomplished at an airspeed commensurate with target condition. With an undamaged target, airspeeds up to 300 KIAS are satisfactory. Heavy damage may require an airspeed of about 200 KIAS.

CAUTION

Severely damaged target may fly erratically and may cause cable failure or damage to the aircraft from cable whip. Release target and cable in range area to prevent possible damage to aircraft.

1. Altitude — Maintain 1500 feet AGL.
2. Flaps — Cruise/FXD.
3. External Stores Selector — BOMB.
4. CL Armament Position Selector Switch — Up.
5. Select Jettison Switch — Check OFF.
6. Airspeed — 300 KIAS (Undamaged).
   — 200 KIAS (Damaged).
7. Weapon Release Button — Press.
   Target and cable are released.

ALTERNATE TARGET DROP (If Target Failed to Drop)

8. External Stores Selector — RKT/DISP.
9. Weapon Release Button — Press.
   Target and cable are released.

ARMAMENT SAFETY CHECK

1. All Armament Switches — OFF or SAFE.

LANDING WITHOUT TARGET

1. Landing Procedures and Airspeed — Normal.
   Effect of asymmetric pod configuration is negligible.

LANDING WITH TARGET STOWED

1. Approach — Straight In.
2. Flaps — Maneuver/AUTO.
3. Airspeed — 10 Knots Above Normal.
   Add 10 knots to computed final approach and touchdown speeds.

WARNING

Maintain 10-knot above normal touchdown speed to avoid rapid loss of lateral control with decreasing speed. Use caution in crosswinds.

CAUTION

High rates of rotation or extreme nose-high attitudes during landing roll may result in the dart target striking the runway.

TARGET DRAG-OFF BEFORE LANDING

If an electrical or mechanical malfunction occurs after the target has been launched, there is no manual means of releasing the tow cable. Drag-off the target in a designated area (if available).

CAUTION

Dragging the target off can leave considerable tow cable trailing behind the aircraft. To minimize possibility of cable damage to lower fuselage, do not exceed 250 KIAS.

1. Approach Dive Angle — 10 to 15 Degrees.
2. Airspeed — 250 KIAS (Maximum).
   Airspeed should preclude aircraft mushing when rapid level-off is executed.
3. Altitude — 200 feet (Minimum AGL).
   Approach should be straight-in to designated impact area for target. The target continues down and impacts the ground approximately within 1000 feet from the point of level-off.

LANDING WITH TARGET IN TOW

If necessary to land with the target in tow:

1. Altitude — Maintain Adequate Terrain Clearance Until on Final Approach.
2. Approach — Straight In.
3. Airspeed — 10 Knots Above Normal.
   Add 10 knots to computed final approach and touchdown speeds.

CAUTION

The target strikes the ground about 3000 feet short of the aircraft touchdown point because the target flies well below the aircraft. Make sure that no buildings or electrical wires obstruct the final approach used. Cable parts upon impact of target with no decrease in aircraft speed.

4. Before Taxi — Remove Cable.
   After landing roll, proceed to end of runway, turnoff, and stop after clearing runway. The cable should be removed prior to further taxi.

EMERGENCY PROCEDURES

SECTION III

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TABLE OF CONTENTS

EMERGENCY RELEASE PROCEDURES

EMERGENCY RELEASE

Emergency release is the term used when the Emergency All Jettison Button, ⚠1 External Stores Jettison T-Handle, or the Select Jettison controls are used. See figures 3-1 and 3-2 for the actions required to jettison and selectively jettison weapons and stores.

HUNG ORDNANCE

Hung ordnance is the term used when an unsuccessful attempt has been made to release or jettison a weapon from the aircraft.

WARNING

Following an attempted release or jettison, any weapon that does not separate from the aircraft should be considered armed and could possibly release during landing.

DART TARGET JETTISON

The tow reel pod and the target carrier assembly are not jettisonable. However, the Dart target can be released from the carrier and the tow cable cut at the tow reel pod. See figures 3-3 and 3-4 for the actions required to jettison the Dart target under various flight conditions.

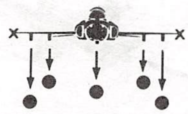
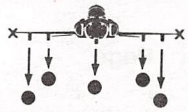
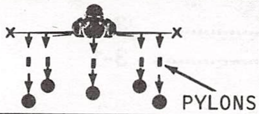
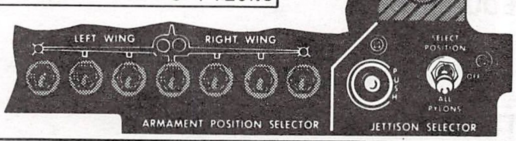
NOTE

For single-engine operation with Dart in tow, refer to appendix in the flight manual.

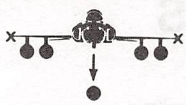
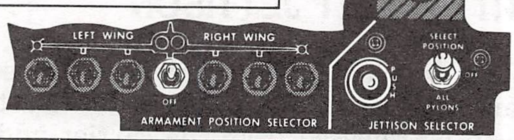
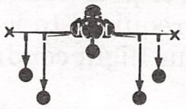
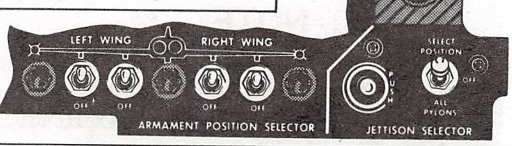
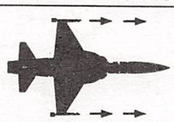
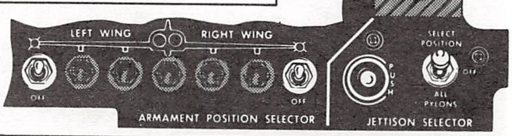
STORES/PYLON JETTISON PROCEDURES

MAJOR CHANGE ☞ ⚠1

EMERGENCY JETTISON

PYLON STORES	CONTROLS	ACTION	STORE CONFIGURATION
PYLON STORES 	(E) – BOTH COCKPITS (F) 	1. EMERGENCY ALL JETTISON BUTTON – PUSH.	BOMBS – UNARMED LAUs – W/WO ROCKETS SUU-25 – W/WO FLARES SUU-20 – W/WO ROCKETS & BOMBS – (F) W/ADAPTER TANKS – W/WO FUEL *Note* (1) STORES JETTISON FIRST, FOLLOWED BY PYLONS. PYLONS JETTISON ONLY IF EQUIPPED WITH NECESSARY HARDWARE AND EXPLOSIVE BOLTS. (2) CL ARMAMENT POSITION SELECTOR SWITCH MUST BE OFF TO JETTISON ANY WING STORES. (3) WITH ALL WING ARMAMENT POSITION SELECTOR SWITCHES UP, PUSHING BUTTON JETTISONS BOTH INBOARD STORES ONLY. INBOARD SWITCHES MUST BE TURNED OFF AND BUTTON PUSHED AGAIN TO JETTISON BOTH OUTBOARD STORES. IF A SINGLE PYLON STORE IS JETTISONED, THE JETTISON STATION MUST BE TURNED OFF BEFORE ANOTHER STORE CAN BE JETTISONED FROM ANOTHER STATION.
PYLON STORES 	(E) –FRONT (F) 	IF STORES FAIL TO JETTISON 2. EXTERNAL STORES JETTISON T-HANDLE – PULL.	
PYLONS AND STORES 	(E) –FRONT (F) 	IF STORES FAIL TO JETTISON 3. SELECT JETTISON SWITCH – ALL PYLONS. (1) 4. SELECT JETTISON BUTTON – PUSH.	

SELECT JETTISON

PYLON STORES	CONTROLS	ACTION	STORE CONFIGURATION
CL PYLON STORE 	(E) –FRONT (F) 	1. CL ARMAMENT POSITION SELECTOR SWITCH – UP. 2. WING ARMAMENT POSITION SELECTOR SWITCH(ES) – OFF. 3. SELECT JETTISON SWITCH – SELECT POSITION. 4. SELECT JETTISON BUTTON–PUSH.	(see Notes above)
WING PYLON STORES 	(E) –FRONT (F) 	1. WING ARMAMENT POSITION SELECTOR SWITCH(ES) – UP. (2) 2. CL ARMAMENT POSITION SELECTOR SWITCH – OFF. 3. SELECT JETTISON SWITCH–SELECT POSITION. (3) 4. SELECT JETTISON BUTTON–PUSH.	
WINGTIP STORES 	(E) –FRONT (F) 	1. TIP ARMAMENT POSITION SELECTOR SWITCH(ES) – UP. (4) 2. PYLON STORE ARMAMENT POSITION SELECTOR SWITCHES – OFF. 3. SELECT JETTISON SWITCH–SELECT POSITION. 4. SELECT JETTISON BUTTON–PUSH	AIM-9s – LAUNCHED UNARMED & UNGUIDED TDU-11/B – LAUNCHED *Note* (4) PYLON STORE ARMAMENT POSITION SELECTOR SWITCHES MUST BE OFF TO JETTISON WING TIP STORES.

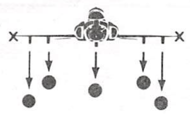
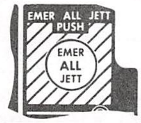
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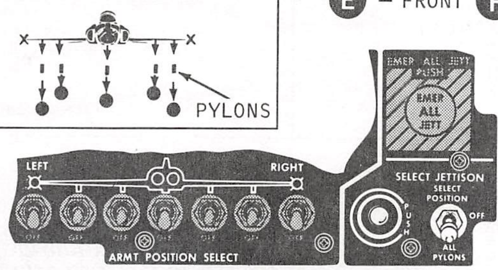
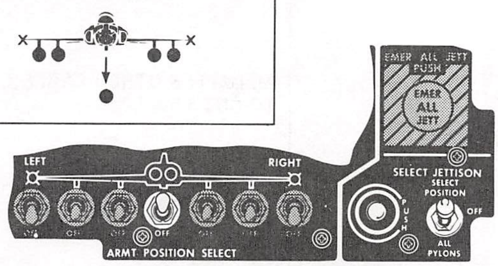
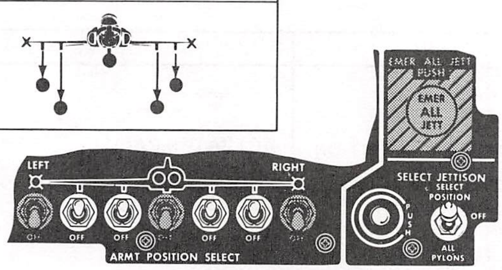
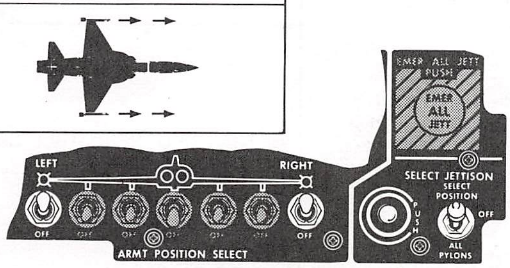
Figure 3-1.

STORES/PYLON JETTISON PROCEDURES

MAJOR CHANGE ☛ 2

EMERGENCY JETTISON

<table>
<tr><th>PYLON STORES</th><th>CONTROLS</th><th>ACTION</th><th>STORE CONFIGURATION</th></tr>
<tr><td></td><td>E – BOTH COCKPITS F
</td><td>1. EMERGENCY ALL JETTISON BUTTON – PUSH.</td><td rowspan="5">BOMBS – UNARMED
LAUs – W/WO ROCKETS
SUU-25 – W/WO FLARES
SUU-20 – W/WO ROCKETS & BOMBS
– F W/ADAPTER
TANKS – W/WO FUEL

Note
1 STORES JETTISON FIRST, FOLLOWED BY PYLONS. PYLONS JETTISON ONLY IF EQUIPPED WITH NECESSARY HARDWARE AND EXPLOSIVE BOLTS.
2 CL ARMAMENT POSITION SELECTOR SWITCH MUST BE OFF TO JETTISON ANY WING STORES.
3 WITH ALL WING ARMAMENT POSITION SELECTOR SWITCHES UP, PUSHING BUTTON JETTISONS BOTH INBOARD STORES ONLY. INBOARD SWITCHES MUST BE TURNED OFF AND BUTTON PUSHED AGAIN TO JETTISON BOTH OUTBOARD STORES. IF A SINGLE PYLON STORE IS JETTISONED, THE JETTISON STATION MUST BE TURNED OFF BEFORE ANOTHER STORE CAN BE JETTISONED FROM ANOTHER STATION.</td></tr>
<tr><td>PYLONS AND STORES
</td><td>E – FRONT F
</td><td>IF STORES FAIL TO JETTISON
2. SELECT JETTISON SWITCH – ALL PYLONS.
1 3. SELECT JETTISON BUTTON – PUSH.</td></tr>
<tr><td colspan="3">SELECT JETTISON E – FRONT F</td></tr>
<tr><td>CL PYLON STORE
</td><td></td><td>1. CL ARMAMENT POSITION SELECTOR SWITCH – UP.
2. WING ARMAMENT POSITION SELECTOR SWITCH(ES) – OFF.
3. SELECT JETTISON SWITCH – SELECT POSITION.
4. SELECT JETTISON BUTTON – PUSH.</td></tr>
<tr><td>WING PYLON STORES
</td><td></td><td>1. WING ARMAMENT POSITION SELECTOR SWITCH(ES) – UP.
2 2. CL ARMAMENT POSITION SELECTOR SWITCH – OFF.
3. SELECT JETTISON SWITCH – SELECT POSITION.
3 4. SELECT JETTISON BUTTON – PUSH.</td></tr>
<tr><td>WINGTIP STORES
</td><td></td><td>1. TIP ARMAMENT POSITION SELECTOR SWITCH(ES) – UP.
4 2. PYLON STORE ARMAMENT POSITION SELECTOR SWITCHES – OFF.
3. SELECT JETTISON SWITCH – SELECT POSITION.
4. SELECT JETTISON BUTTON – PUSH</td><td>AIM-9s – LAUNCHED UNARMED & UNGUIDED

TDU-11/B – LAUNCHED

Note
4 PYLON STORE ARMAMENT POSITION SELECTOR SWITCHES MUST BE OFF TO JETTISON WING TIP STORES.</td></tr>
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Figure 3-2.

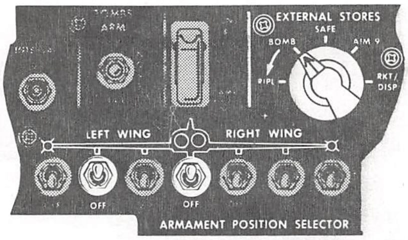
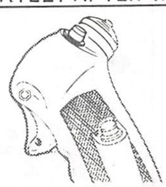
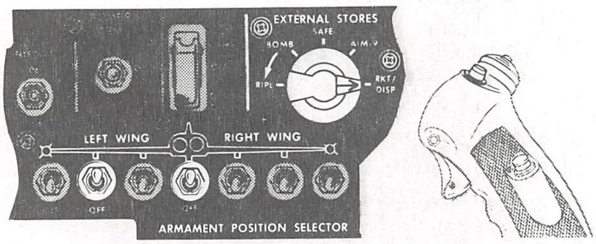
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DART TARGET JETTISON PROCEDURES

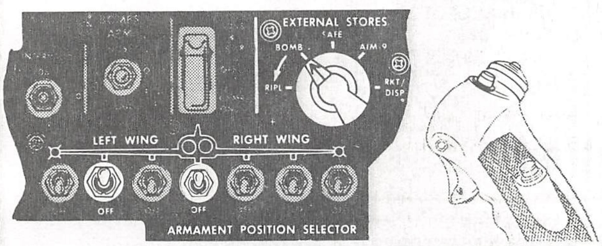
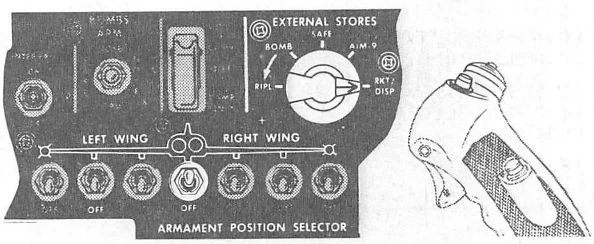
⚠ 1

Note (F)
WEAPON RELEASE BUTTON FUNCTIONAL IN BOTH COCKPITS.

TAKEOFF (E) -- FRONT (F)

CONTROLS	ACTION	EVENT
BEFORE TAKEOFF (TO ALERT DART RELEASE/JETTISON CIRCUITS) 	1. EXTERNAL STORES SELECTOR — BOMB. 2. LO ARMAMENT POSITION SELECTOR SWITCH — UP 3. CL ARMAMENT POSITION SELECTOR SWITCH — UP.	
TAKEOFF (IMMEDIATELY AFTER TAKEOFF) 	1. WEAPON RELEASE BUTTON - PRESS.	ACTUATES RACK IN LAUNCHER TO RELEASE DART AND CABLE CUTTER TO CUT TOW CABLE.
	IF CABLE FAILS TO SEPERATE: 2. EXTERNAL STORES SELECTOR - RKT/DISP. 3. WEAPON RELEASE BUTTON - PRESS.	ACTUATES OTHER CABLE CUTTER TO CUT TOW CABLE.

INFLIGHT (E) -- FRONT (F)

CONTROLS	ACTION	EVENT
	1. EXTERNAL STORES SELECTOR — BOMB. 2. CL ARMAMENT POSITION SELECTOR SWITCH — UP. 3. (IF DART STOWED) LO ARMAMENT POSITION SELECTOR SWITCH — UP. 4. WEAPON RELEASE BUTTON - PRESS.	ACTUATES RACK IN LAUNCHER TO RELEASE DART (IF STOWED) AND CABLE CUTTER TO CUT TOW CABLE.
	IF CABLE FAILS TO SEPERATE: 5. EXTERNAL STORES SELECTOR - RKT/DISP. 6. WEAPON RELEASE BUTTON - PRESS.	ACTUATES OTHER CABLE CUTTER TO CUT TOW CABLE.

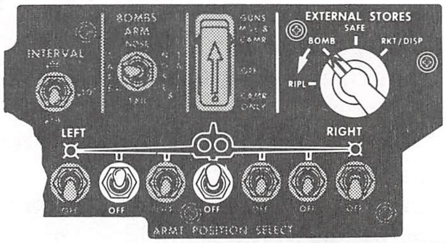
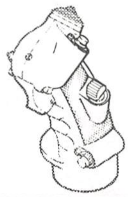
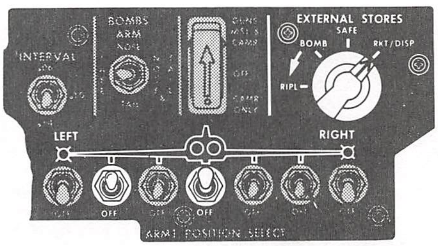
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DART TARGET JETTISON PROCEDURES

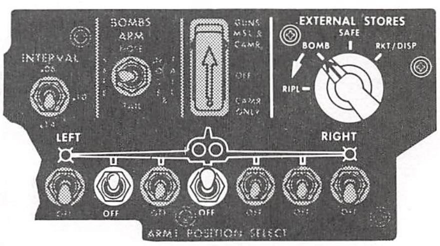
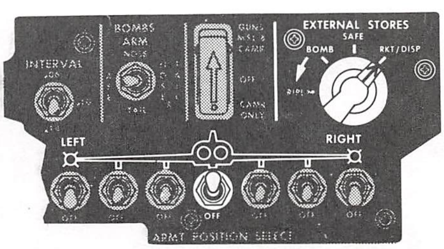
Note Ⓕ
WEAPON RELEASE BUTTON FUNCTIONAL IN BOTH COCKPITS.

⚠2

TAKEOFF Ⓔ -- FRONT Ⓕ

CONTROLS	ACTION	EVENT
BEFORE TAKEOFF (TO ALERT DART RELEASE/JETTISON CIRCUITS) 	1. DOGFIGHT/RESUME SEARCH SWITCH - PRESS. 2. EXTERNAL STORES SELECTOR - BOMB. 3. LO ARMAMENT POSITION SELECTOR SWITCH - UP. 4. CL ARMAMENT POSITION SELECTOR SWITCH - UP.	
TAKEOFF (IMMEDIATELY AFTER TAKEOFF) 	1. WEAPON RELEASE BUTTON - PRESS.	ACTUATES RACK IN LAUNCHER TO RELEASE DART AND CABLE CUTTER TO CUT TOW CABLE.
 	IF CABLE FAILS TO SEPERATE: 2. EXTERNAL STORES SELECTOR - RKT/DISP. 3. WEAPON RELEASE BUTTON - PRESS.	ACTUATES OTHER CABLE CUTTER TO CUT TOW CABLE.

INFLIGHT Ⓔ -- FRONT Ⓕ

CONTROLS	ACTION	EVENT
 	1. DOGFIGHT/RESUME SEARCH SWITCH - PRESS. 2. EXTERNAL STORES SELECTOR - BOMB. 3. CL ARMAMENT POSITION SELECTOR SWITCH - UP. 4. (IF DART STOWED) LO ARMAMENT POSITION SELECTOR SWITCH - UP. 5. WEAPON RELEASE BUTTON - PRESS.	ACTUATES RACK IN LAUNCHER TO RELEASE DART (IF STOWED) AND CABLE CUTTER TO CUT TOW CABLE.
 	IF CABLE FAILS TO SEPERATE: 6. EXTERNAL STORES SELECTOR - RKT/DISP. 7. WEAPON RELEASE BUTTON - PRESS.	ACTUATES OTHER CABLE CUTTER TO CUT TOW CABLE.

F-5 34-75(4)E

MALFUNCTION PROCEDURES

AIM-9 MISSILE

When all armament switches have been properly positioned and a missile launch fails after the weapon release button is pressed, the malfunction should be considered as a hangfire for a period of 15 minutes after the ⚠1 external stores selector is turned to SAFE; ⚠2 guns, missile, and camera switch is positioned at OFF. During this period, fly a course or courses to minimize the hazard if missile launch occurs. Malfunction procedure for AIM-9 missile is as follows:

1. ⚠1 External Stores Selector — SAFE (Detent).
2. ⚠2 Guns, Missile and Camera Switch — OFF (Guard Closed).
3. Wingtip Armament Position Selector Switch (Failed Weapon) — OFF.
4. Hangfire Period (15 Minutes) — Avoid Inhabited Areas.
5. After 15 Minutes With No Smoldering — Missile Misfired.

   After 15 minutes during which no smoldering occurred, consider the missile a misfire.

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FIREFIGHTING CRITERIA

FIREFIGHTING AND EVACUATION

These emergency procedures consist of actions to take if munitions are involved in a fire. The aircrew should be thoroughly familiar with these instructions.

Normally, aircraft fire involving munitions occurs under a set of circumstances wherein it is impossible to know immediately the specific missile, bomb, or CBU model number. Such information is absolutely essential for specific fire fighting and withdrawal times. Therefore, these times are presented only for the following family groups.

a. Bombs: Bombs normally react in a major fire by exploding between two and four minutes. Fuzes and boosters can be ejected and function as separate explosions. There is a major blast and fire hazard to environment and fire fighting capability after two minutes. When withdrawal is accomplished take whatever cover is available.

b. CBUs: CBUs normally react in a major fire by exploding between two and five minutes. Some munitions (bombs) are expelled by the force of the explosion to 1000 + feet. These bombs can detonate upon impact. There is major fragment and fire hazard to environment and fire fighting capability after two minutes in all cases. When withdrawal is accomplished reenter after EOD approval only.

c. Missiles: Missiles normally react in propulsion, detonation or both between 45 seconds and two minutes. A propulsion hazard (missile flight) exists within 45 seconds and a major hazard to environment and fire fighting capability after one minute. Approach the fire, if necessary, from the side of the aircraft.

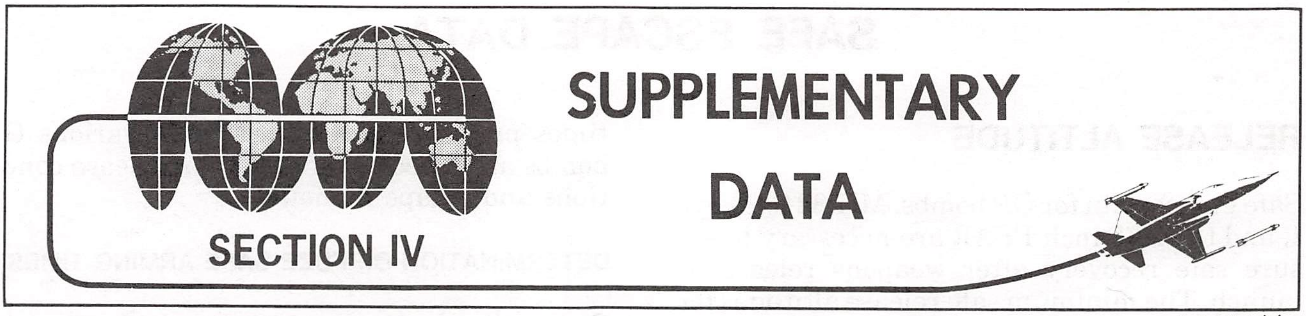
d. Rockets: Rockets and missiles are identical in reaction. Difference in designation is attributable to missile having guidance and control systems; rockets do not.

Fire fighting guidance provided in AFR127-100 will be used in all instances. There is no specific withdrawal time for items which do not align into one of the four family groups.

WEAPON	WITHDRAWAL TIME	WITHDRAWAL DISTANCE (FEET) NONESSENTIAL PERSONNEL
AIM-9 (HIGH EXPLOSIVE ARHEAD)	45 SEC-2 MIN	4000
AIM-9 (LIVE MOTOR & INERT OR PRACTICE WARHEAD)	45 SEC-2 MIN	600
AIM-9 (INERT MOTOR & INERT WARHEAD WITH LIVE G&C)	*	300
ROCKET, 2.75-INCH (HIGH EXPLOSIVE WARHEAD)	45 SEC-2 MIN	4000
ROCKET, 2.75-INCH (WP WARHEAD)	45 SEC-2 MIN	2500
ROCKET, 2.75-INCH (INERT & FLECHETTE WARHEAD)	45 SEC-2 MIN	600
ROCKET, TARGET, 5-INCH, HVAR, TDU-11/B	45 SEC-2 MIN	600
BOMB, GP, MK-82, -82 (SNAKEYE I), -83, -84, M117	2-4 MIN	4000
DESTRUCTOR, MK-36	2-4 MIN	4000
BOMB, GBU-10, GBU-12	2-4 MIN	4000
BOMB, CLUSTER, CBU-24B/B, -49B/B, -52B/B, -58/B, -58A/B, -71/B, -71A/B	2-5 MIN	2500
BOMB, LEAFLET, M129E2	*	2500
BOMB, FIRE, BLU-1, -27, -32	*	600
DISPENSER, SUU-25 WITH MK-24 OR LUU-2B FLARES AND LUU-1/B, -5/B MARKERS	*	600
CARTRIDGE, 20MM, HEI, HEI-T	*	2500
CARTRIDGE, 20MM, API, TP, TP-T	*	300
CARTRIDGE, IMPUSE, ARD 446-1 OR ARD 863-1, CCU-43/B AND CCU-44/B	*	300
BOMB, PRACTICE, BDU-33/MK-106	*	300

* THESE ITEMS DO NOT FALL INTO ONE OF THE FOUR FAMILY GROUPS; THEREFORE THEY DO NOT HAVE A SPECIFIC WITHDRAWAL TIME ASSIGNED.

Figure 3-5.



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TABLE OF CONTENTS

SAFE ESCAPE DATA

RELEASE ALTITUDE

Safe escape data for GP bombs, MK-82 Snakeye I, and the 2.75-inch FFAR are necessary to ensure safe recovery after weapons release or launch. The minimum safe release altitudes for the various munitions were computed using the available fragmentation data collected from static detonations of the items under controlled test conditions. These altitudes are based on the effect of the fragment envelopes from impacting munitions on the delivery aircraft. The safe altitudes are based on the probability of the delivery aircraft entering the fragment envelope and being struck by a lethal fragment. Whenever this probability is zero, the delivery altitude is considered safe. The minimum safe release altitudes assume proper functioning fuzes and retardation devices.

FUZE SAFE ARMING TIMES

The objective of the following discussion is twofold:

a. Point out the wide variation in required safe escape distances and safe fuze arming times for the various release conditions, release modes, and escape maneuvers.

b. Emphasize the importance of a judicious selection of fuze safe arming times during mission planning where proximity or impact fuzes are involved. The fuze arming times, which are required to assure safe escape from premature airbursts (or earlier-than-intended impact bursts), vary widely as a function of release conditions (level or dive, low altitude or high altitude) and release modes (single, pairs, salvo, or timed ripple). The required safe arming times provided in Section VI for various GP bombs are listed as a function of release conditions and escape maneuvers.

DETERMINATION OF FUZE SAFE ARMING TIMES

Ordinarily, premature airburst detonations of impact fuzed munitions are not anticipated. However, to protect the aircraft and aircrew from any earlier-than-intended burst, fuze safe arming time settings which assure safe escape should be employed with impact type fuzes whenever operational considerations permit this course of action. Use of this procedure helps protect the aircraft and aircrew in the event of an inadvertent low altitude release as well as any premature airburst.

WARNING

If operational considerations and the range of available fuze arming time settings require the selection of settings which do not assure safe escape from an earlier-than-intended burst, the pilot should be briefed to carefully observe the appropriate minimum release altitudes and recovery maneuvers required for safe escape.

CLIMB RECOVERY

Safe escape by pullup maneuver from dive or level release is based on assumption that a 4.0 g MIL power climb recovery is attained within 2 seconds after weapon release. The g's are maintained until a 20- to 30-degree climbout angle is attained.

STRAIGHT AND LEVEL CONSTANT SPEED RECOVERY

Safe escape from level release of a weapon can be accomplished by straight and level constant speed flight. Use of this method of recovery requires a higher weapon release altitude than that required from MIL power pullup recovery to allow for fragmentation clearance.

NOTE

One must keep in mind that there is danger of some fragments traveling faster and farther than the theory predicts. Even though the delivery aircraft does not enter the computed fragment envelope, there is some minute chance that it may encounter one of these freak fragments. The probability of this occurring cannot be determined due to the lack of information available on the number, types, and ballistic behavior of such fragments. The probability of being hit is believed to be negligible if the aircraft delivers its ordnance from the indicated minimum safe release altitude or higher.

ERROR ANALYSIS

AIR-TO-AIR GUN ERRORS

Firing out of range is a frequently made error when attacking airborne targets. A functioning radar, with lock-on of the target, provides accurate range information to preclude the occurrence of this error. Target tracking and intercept errors can be reduced by smooth application of control pressures. Assessing of sight camera film assists in improving accuracy of air-to-air firing.

AIR-TO-GROUND DELIVERY ERRORS

Delivery of all munitions is affected by aircraft velocity and direction at firing or release and by the force of gravity. The effect on self-propelled munitions is less than on the free-fall type; however, the difference is in magnitude only, and the same errors are induced in all deliveries. The following analysis considers bomb delivery errors which are representative of those affecting gun and rocket firing but are more severe.

Unlike a rocket or projectile, a free-fall munition has no self-generated velocity and is entirely dependent on the velocity imparted to it by the launching aircraft and by gravity. A free-fall munition has the velocity and flight path of the aircraft at the instant of release. From this point, the munition accelerates toward the earth by the force of gravity. A munition released from an aircraft in a wings-level attitude impacts along or very near the aircraft ground track. When a free-fall munition is to be released, the sight reticle must be depressed to a calculated sight angle in order to predict the impact point. Sight depression depends upon the dive angle, true airspeed, g-loading, and altitude or slant range. Since the primary factors affecting free-fall munition trajectory are the direction and speed of the aircraft at the moment of release, many errors may be induced in bombing that are considered more important than in gun or rocket fire. Figure 4-1 illustrates the projection of the aircraft flight path beyond the target by means of a depressed sightline to compensate for the curved bomb trajectory. This chart is drawn to scale for an

FLIGHT PATH – SIGHT LINE RELATIONSHIP

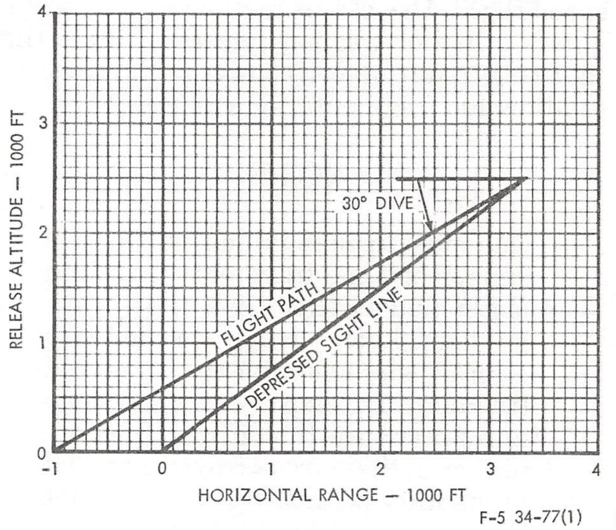


Figure 4-1.

MK-82, 30-degree dive, 420 KTAS (400 KIAS), 18°C at release altitude, 2500 feet AGL release. The bomb range for this release condition (obtained from bombing table) is 3348 feet. For this release condition, the bomb must be released at a horizontal distance of 3348 feet from the target at the planned 2500 feet AGL and 30-degree dive angle. If the 30-degree dive flight path is projected from the release point to the ground, it can be seen that sight depression sufficient to project the flight path approximately 980 feet beyond the target is required to compensate for the trajectory curvature. Figure 4-2 provides the miss distances in bomb range due to the variations in the release conditions for the BDU-33A/B and BDU-33B/B practice bombs released from the SUU-20 series dispenser. Planned, or standard, conditions for each example are given in the first column. Each variation is considered independently of the others. The miss distance for each variation is shown in the adjacent column. Negative numbers in the Variations in Dive Angle column indicate dive angles steeper than planned.

ERROR ANALYSIS EXAMPLE

BDU-33A/B AND BDU-33B/B PRACTICE BOMB WITH SUU-20 DISPENSER

STANDARD CONDITIONS	VARIATIONS IN RELEASE VEL (KTS)	RANGE ERROR (FT)*	VARIATIONS IN DIVE ANGLE (DEG)	RANGE ERROR (FT)*	VARIATIONS IN RELEASE ALT (FT)	RANGE ERROR (FT)*
RELEASE VELOCITY: 480 KTAS			5 ↑	-480	500	-326
460 KIAS	20	124	4	-344	400	-254
DIVE ANGLE: 15°	15	95	3 SHALLOW	-231	300	-184
RELEASE ALTITUDE: 2,000 FT	10	65	2	-137	200	-117
TEMP AT RELEASE: +10°C	5	35	1	-59	100	-55
	-5	-27	-1	57	-100	60
	-10	-59	-2	101	-200	113
	-15	-91	-3 STEEP	137	-300	161
	-20	-124	-4	168	-400	205
			-5 ↓	192	-500	245
RELEASE VELOCITY: 480 KTAS			5 ↑	-189	500	-131
455 KIAS	20	66	4	-142	400	-104
DIVE ANGLE: 30°	15	48	3 SHALLOW	-101	300	-77
RELEASE ALTITUDE: 3,000 FT	10	31	2	-65	200	-52
TEMP AT RELEASE: +10°C	5	14	1	-34	100	-27
	-5	-24	-1	21	-100	18
	-10	-42	-2	43	-200	38
	-15	-61	-3 STEEP	64	-300	58
	-20	-81	-4	82	-400	77
			-5 ↓	98	-500	95
RELEASE VELOCITY: 480 KTAS			5 ↑	-110	500	-61
450 KIAS	20	48	4	-85	400	-48
DIVE ANGLE: 45°	15	36	3 SHALLOW	-61	300	-35
RELEASE ALTITUDE: 4,000 FT	10	25	2	-39	200	-23
TEMP AT RELEASE: +5°C	5	12	1	-19	100	-11
	-5	-12	-1	18	-100	11
	-10	-25	-2	35	-200	21
	-15	-39	-3 STEEP	49	-300	31
	-20	-51	-4	64	-400	40
			-5 ↓	78	-500	50
RELEASE VELOCITY: 480 KTAS			5 ↑	-127	500	-41
440 KIAS	20	38	4	-100	400	-34
DIVE ANGLE: 60°	15	27	3 SHALLOW	-75	300	-26
RELEASE ALTITUDE: 6,000 FT	10	17	2	-50	200	-19
TEMP AT RELEASE: 0°C	5	6	1	-27	100	-12
	-5	-16	-1	16	-100	1
	-10	-28	-2	37	-200	8
	-15	-39	-3 STEEP	57	-300	14
	-20	-52	-4	75	-400	20
			-5 ↓	94	-500	26

*POSITIVE NUMBERS INDICATE LONG ERRORS

F-5E 34-131 B

Figure 4-2.

EFFECT OF RELEASE ALTITUDE

Munitions released at a higher altitude than planned, resulting in a greater slant range from the target, result in the munition impacting short of the target. Consequently, munitions released at a lower altitude, resulting in a shorter slant range from the target, overshoot the target. The fallacy of pressing into the target becomes immediately apparent as the released munitions overshoot the target while further exposing the aircraft to the blast and fragmentation envelope. Figure 4-3 depicts the results of higher, lower, and planned release altitudes for dive and level deliveries.

EFFECT OF DIVE ANGLE

Releasing munitions at a steeper than optimum dive angle results in the munitions overshooting the target due to the lesser sight depression requirement as the release dive angle increases. A reduced dive angle from optimum results in the munitions impacting short, due to the requirement for a greater sight depression angle at shallower dive angles. When using the altimeter to determine correct release altitude commensurate with the optimum release slant range, variations in dive angle induce a double error in the munitions impact point. Releasing on a given altimeter indication when the dive angle is steeper than optimum also reduces the release slant range. Either condition requires less sight depression, and munitions overshoot the target. Consequently, releasing on a given altimeter indication in a shallower dive angle than optimum creates a requirement for greater sight depression than selected to compensate for the decreased dive angle and increased range, and the munitions impact short of the intended target. When computing indicated altimeter indications to determine release, it is important to have the altimeter set to the target altimeter setting and to include altimeter lag in the computations. Figure 4-4 depicts the results of too steep, too shallow, and planned release dive angles for constant and varying altitudes.

EFFECT OF AIRSPEED

The only velocity imparted to a free-fall munition released from an aircraft is the velocity at the time of release. Munitions released at a lower airspeed than required by the computed sight setting result in the munitions impacting short of the target; consequently, munitions released at a higher than computed airspeed overshoot the target. Changes in aircraft airspeed change the angle of attack of the aircraft and alter the sight depression relative to the flight path of the aircraft. The changed angle of attack induces an overshoot or undershoot error in impact of the munitions. This same change in angle of attack of the aircraft alters the angle of attack of the rocket launcher and the gun relative to the flight path of the aircraft. This in turn alters the amount of trajectory shift of the rocket and gun while at the same time imparting a different aircraft release velocity to the projectiles.

Rockets, and the gun to a lesser degree, are greatly affected by changes in release airspeed from optimum. An increase in airspeed from the optimum selected for a given release condition and precomputed sight setting causes an overshoot for rocket and gun projectiles. An undershoot occurs when the airspeed is less than optimum. Figure 4-5 depicts the effects on munition impact point of deviating from planned airspeed.

EFFECT OF G-LOADING

Dive bombing ballistic tables are based on a release g-force equal to the cosine of the dive angle (0.866g at 30 degrees, for example). Munitions released when the aircraft deviates from the planned g-condition results in an impact error. Figure 4-5 depicts the results of deviation from planned g-loading. An increase in g-loading on an aircraft results in an increase in angle of attack which, in effect, decreases sight depression relative to the flight path. The result is an undershoot. Conversely, a negative g-loading decreases the aircraft angle of attack, producing an overshoot. Gun and rocket accuracy is further aggravated by the different than computed trajectory shift caused by the change in the muzzle and launcher angle of attack.

ALTITUDE ERROR EFFECT

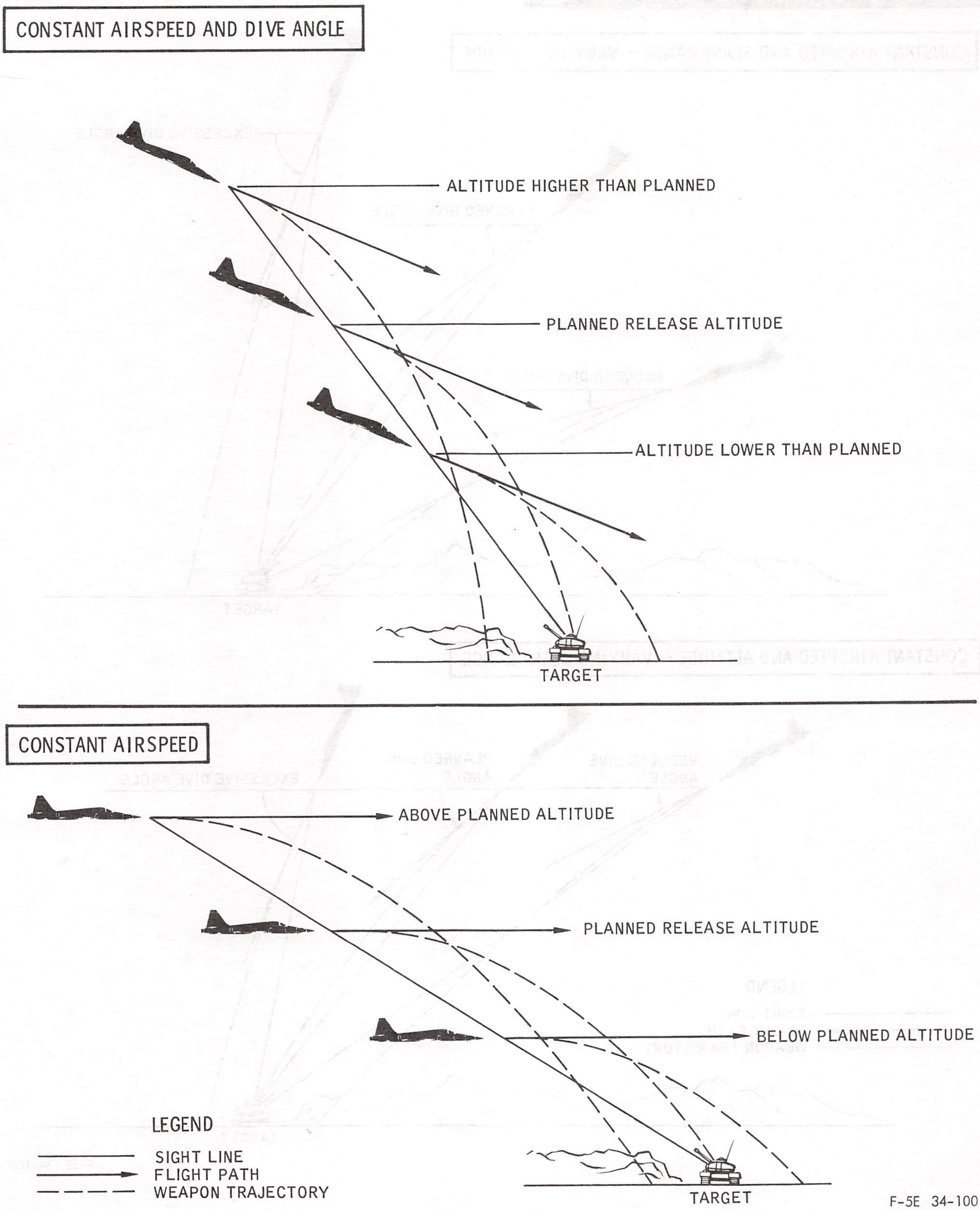


Figure 4-3.

DIVE ANGLE ERROR EFFECT

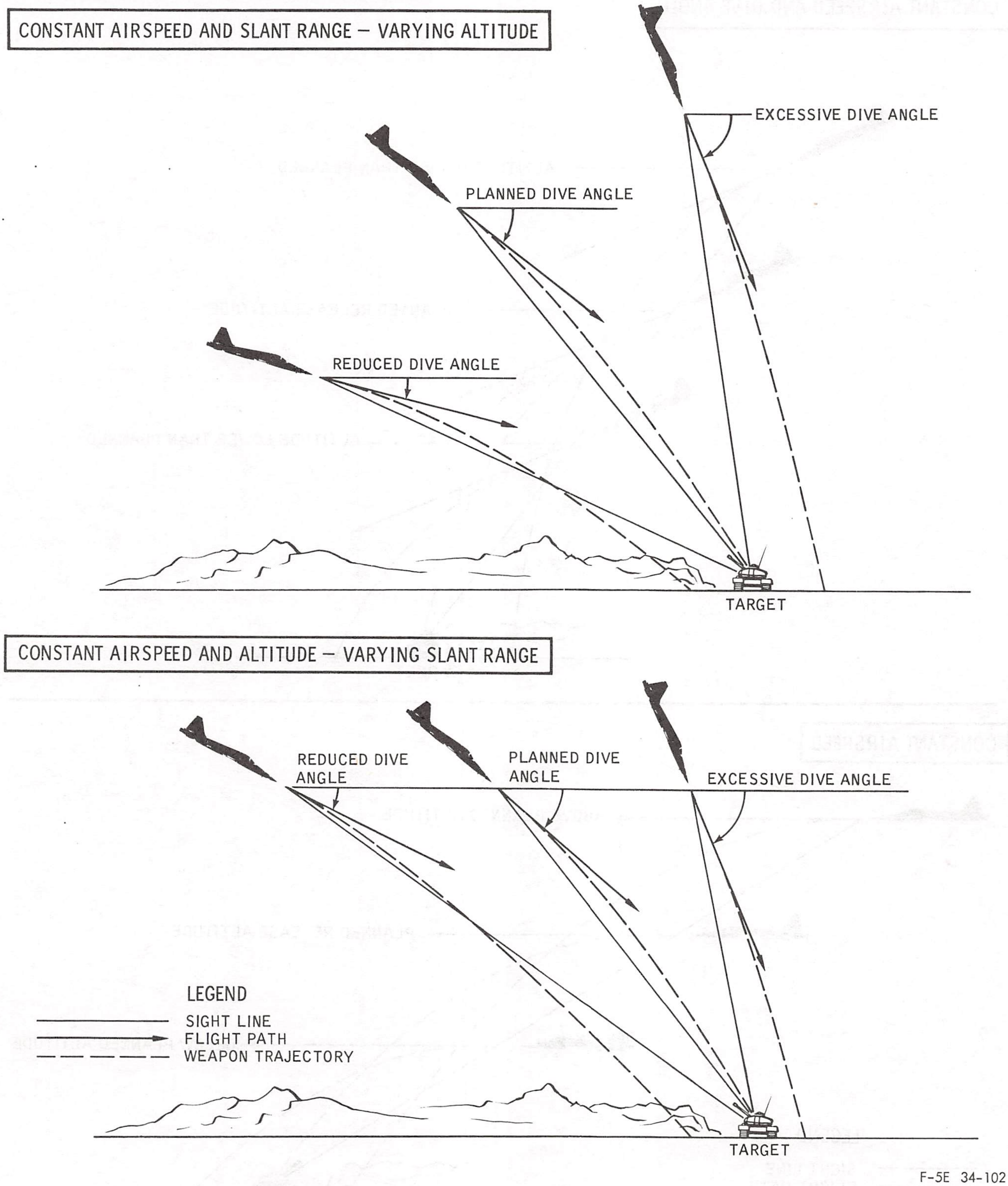


Figure 4-4.

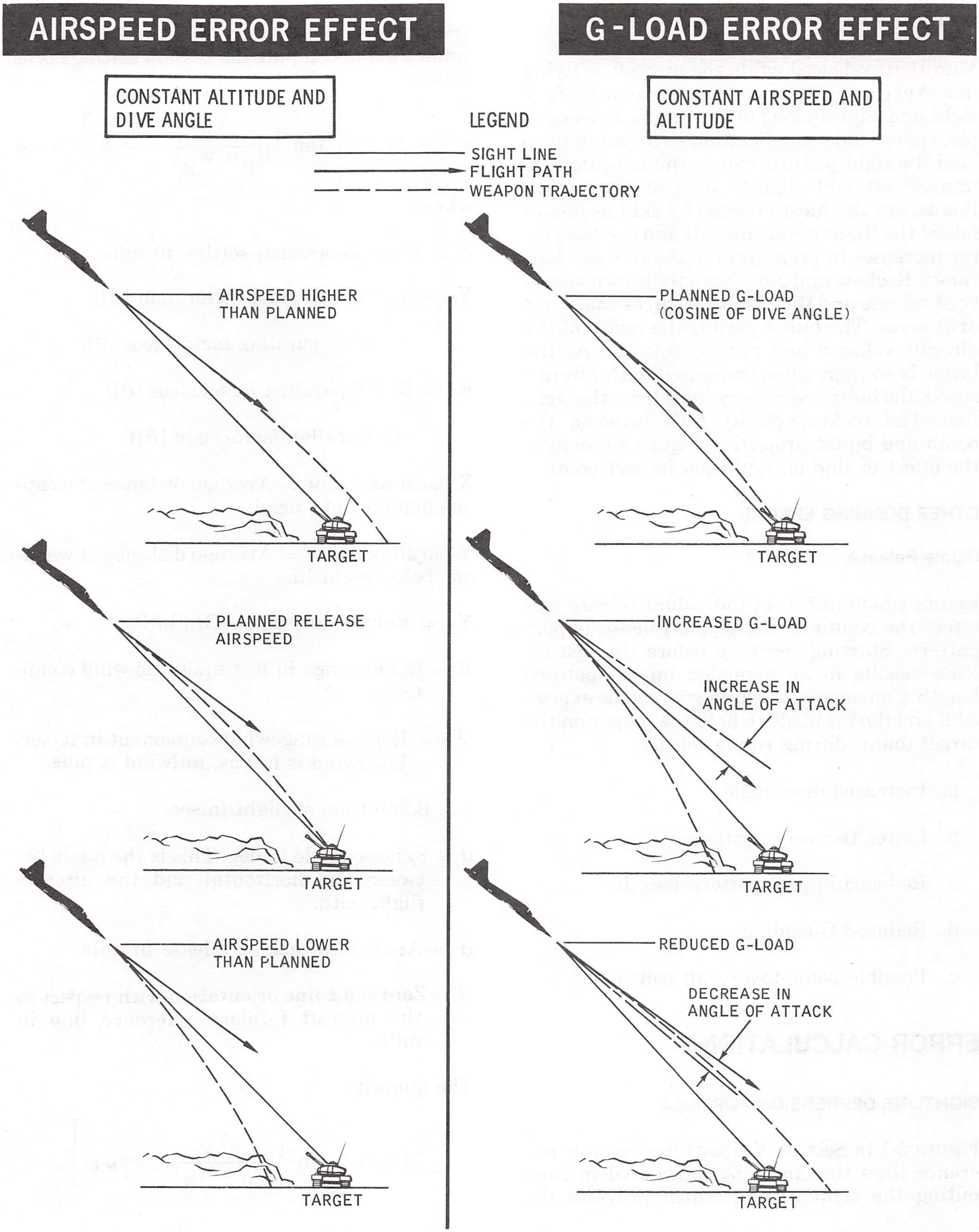

AIRSPEED ERROR EFFECT
CONSTANT ALTITUDE AND DIVE ANGLE
G-LOAD ERROR EFFECT
CONSTANT AIRSPEED AND ALTITUDE
LEGEND
SIGHT LINE
FLIGHT PATH
WEAPON TRAJECTORY
AIRSPEED HIGHER THAN PLANNED
TARGET
PLANNED RELEASE AIRSPEED
TARGET
AIRSPEED LOWER THAN PLANNED
TARGET
PLANNED G-LOAD (COSINE OF DIVE ANGLE)
TARGET
INCREASED G-LOAD
INCREASE IN ANGLE OF ATTACK
TARGET
REDUCED G-LOAD
DECREASE IN ANGLE OF ATTACK
TARGET
F-5E 34-105

Figure 4-5.

EFFECT OF SKID

Munitions released while the aircraft is flying in a skid causes the munitions to impact left or right and slightly long of the target. For example, right rudder application, in an attempt to hold the sight picture, causes the munitions to impact left and slightly long of the target. Bombs are the most affected by skid as bombs follow the flight of the aircraft and the total error increases in proportion to the release slant range. Rockets and guns have their own velocity at release and the resultant forces cause less drift error. The bullet path is the result of the aircraft velocity and muzzle velocity. As the latter is so high when compared with aircraft speed, the bullet veers very little from the sight line. The rocket velocity falls between the bomb and bullet projectile. Figure 4-6 depicts the effect of skid on munition impact point.

OTHER BOMBING ERRORS

Ripple Release

Errors which affect an individual release will affect the center of the ripple release impact pattern. Starting recovery before the last release results in an extended impact pattern length. Conversely, the following can be expected if an effort is made to hold the pipper on the target (bunt) during ripple release:

a. Increased dive angle.

b. Lower recovery altitude.

c. Reduced impact pattern length.

d. Reduced G-loading.

e. Possible bomb-to-aircraft collision.

ERROR CALCULATIONS

SIGHTLINE DEPRESSION FORMULA

Figure 5-1 in Section V illustrates aircraft reference lines that must be considered in computing the sight setting which provides the required depression from flight path. The formula used to compute depression settings is as follows:

$$\phi = 17.45\left[\tan^{-1}\frac{Y_P}{R_P \pm W_R t} - |\theta|\right] + \alpha - \beta$$

where

ϕ = Sight depression setting in mils

$Y_P = Y_R$ - (X parallax factor) (sin $|\theta|$)

+ (Y parallax factor) (cos $|\theta|$)

$R_P = R$ - (X parallax factor) (cos $|\theta|$)

- (Y parallax factor) (sin $|\theta|$)

X parallax factor = Average distance of weapons behind sight head

Y parallax factor = Average distance of weapons below sight line

Y_R = Release altitude (AGL) in ft

R = Bomb range in feet under no-wind conditions

W_R = Release rangewind component in ft/sec, headwind is minus; tailwind is plus.

t = Bomb time of flight in sec.

θ = Release angle in deg. This is the angle between the horizontal and the aircraft flight path.

α = Angle of attack at release in mils.

β = Zero sight line orientation with respect to the aircraft fuselage reference line in mils.

The quantity

$$17.45\left[\tan^{-1}\frac{Y_P}{R_P \pm W_R t} - |\theta|\right]$$

SKID EFFECT

MAJOR CHANGE

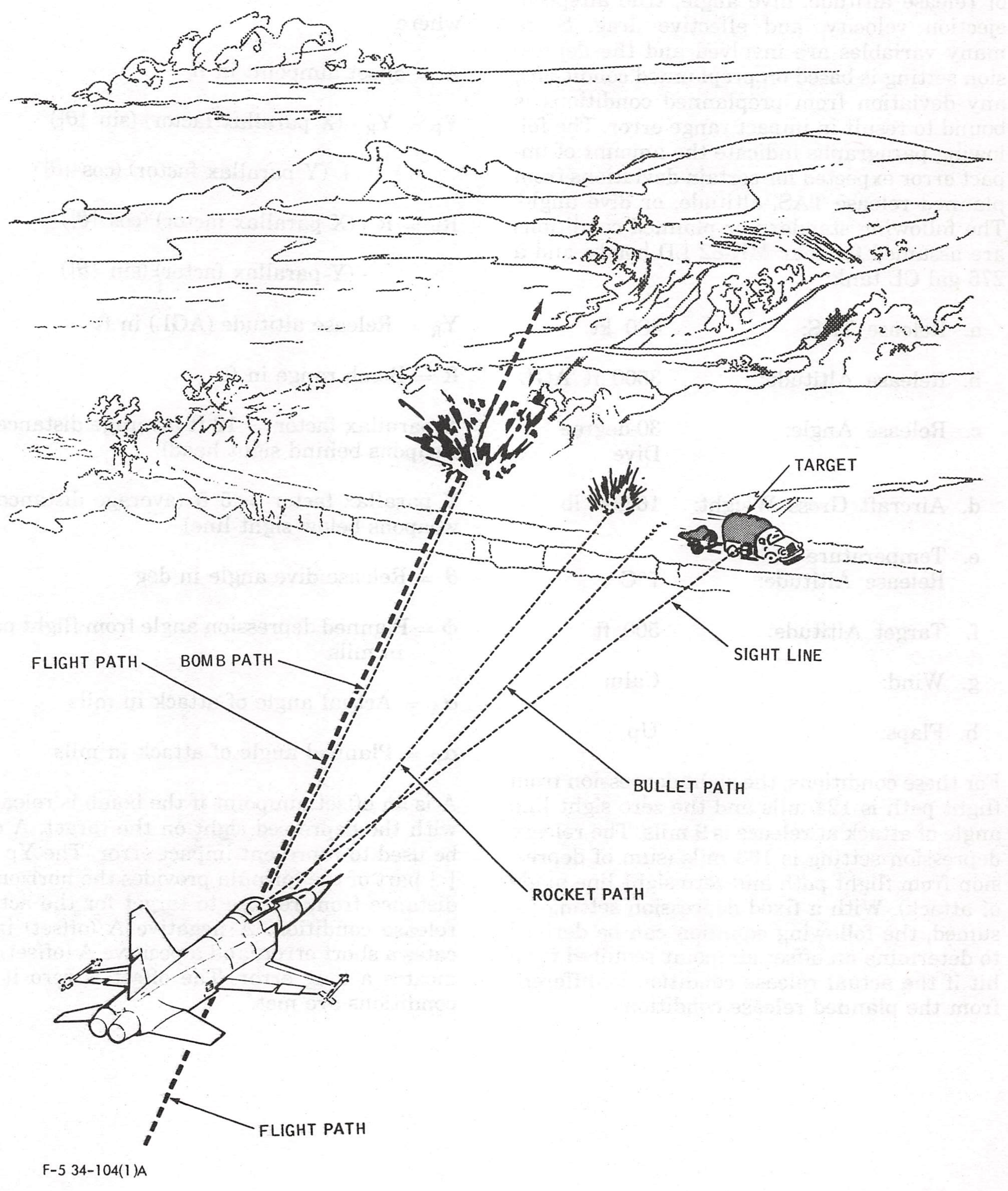


Figure 4-6.

in the sight depression angle formula represents the depression angle from flight path which is listed in the bombing tables. It is a function of release altitude, bomb range, and dive angle. Bomb range, in turn, is a function of release altitude, dive angle, true airspeed, ejection velocity, and effective drag. Since many variables are involved and the depression setting is based on preplanned conditions, any deviation from preplanned conditions is bound to result in impact range error. The following paragraphs indicate the amount of impact error expected for certain deviations from planned release TAS, altitude, or dive angle. The following standard or planned conditions are assumed for four MK-82 LD bombs and a 275 gal CL tank:

a. Release TAS:	480 kt
b. Release Altitude:	3500 ft AGL
c. Release Angle:	30-degree Dive
d. Aircraft Gross Weight:	16,000 lb
e. Temperature at Release Altitude:	7°C
f. Target Altitude:	500 ft
g. Wind:	Calm
h. Flaps:	Up

For these conditions, the sight depression from flight path is 124 mils and the zero sight line angle of attack at release is 9 mils. The release depression setting is 133 mils (sum of depression from flight path and zero sight line angle of attack). With a fixed depression setting assumed, the following equation can be derived to determine an offset aimpoint required for a hit if the actual release condition is different from the planned release conditions.

$$A = R_P - Y_P \cot\left[\theta + \frac{\phi - \alpha_A + \alpha_P}{17.45}\right]$$

where

A = offset aimpoint in ft

$Y_P = Y_R$ - (X parallax factor) (sin $|\theta|$) + (Y parallax factor) (cos $|\theta|$)

$R_P = R$ - (X parallax factor) (cos $|\theta|$) - (Y parallax factor) (sin $|\theta|$)

Y_R = Release altitude (AGL) in ft

R = Bomb range in ft

X parallax factor = 12 ft (average distance of weapons behind sight head)

Y parallax factor = 5 ft (average distance of weapons below sight line)

θ = Release dive angle in deg

ϕ = Planned depression angle from flight path in mils

α_A = Actual angle of attack in mils

α_P = Planned angle of attack in mils

A is an offset aimpoint if the bomb is released with the depressed sight on the target. A can be used to represent impact error. The Yp cot [ ] part of the formula provides the horizontal distance from release to target for the actual release condition. A negative A (offset) indicates a short error, and a positive A (offset) indicates a long error. The offset is zero if all conditions are met.

TAS ERROR CALCULATION

TAS = 460 knots (20 knots slower than planned), 30-degree dive, 3500 feet AGL, α_A = 12 mils and R = 4565 feet.

Substituting in the A equation, we have:

$$A = 4552 - 3498 \cot \left[30 + \frac{124 - 12 + 9}{17.45} \right]$$

A = -101 feet (short error)

TAS = 500 knots (20 knots faster than planned), 30-degree dive, 3500 feet AGL, α_A = 7 mils and R = 4708 feet.

$$A = 4695 - 3498 \cot \left[30 + \frac{124 - 7 + 9}{17.45} \right]$$

A = 90 feet (long error)

ALTITUDE ERROR CALCULATION

Altitude = 3000 feet (500 feet lower than planned), 30-degree dive, 480 KTAS, α_A = 9 mils and R = 4084 feet.

$$A = 4071 - 2998 \cot \left[30 + \frac{124 - 9 + 9}{17.45} \right]$$

A = 108 feet (long error)

Altitude = 4000 feet (500 feet higher than planned), 30-degree dive, 480 KTAS, α_A = 9 mils and R = 5175 feet.

$$A = 5162 - 3998 \cot \left[30 + \frac{124 - 9 + 9}{17.45} \right]$$

A = -123 feet (short error)

DIVE ANGLE ERROR CALCULATION

Dive angle = 25 degrees (5 degrees less than planned), 480 KTAS, 3500 feet AGL, α_A = 11 mils, R = 5379 feet.

$$A = 5366 - 3499 \cot \left[25 + \frac{124 - 11 + 9}{17.45} \right]$$

A = -235 feet (short error)

Dive angle = 35 degrees (5 degrees steeper than planned), 480 KTAS, 3500 feet AGL, α_A = 7 mils, R = 4005 feet.

$$A = 3992 - 3497 \cot \left[35 + \frac{124 - 7 + 9}{17.45} \right]$$

A = 138 feet (long error)

BORESIGHTING

INTRODUCTION

The gun(s) and sight must be aligned parallel to the armament reference line (ARL) to achieve accurate firepower capability. Alignment is accomplished by boresighting the gun using a boresight target (figure 4-7) placed a fixed distance in front of the aircraft. The dimensions on the target align the gun bore line (GBL) parallel to the zero sight line (ZSL) and the ARL. The Ⓔ dimensions between the GBL, ARL and ZSL are different than the Ⓕ dimensions. Procedures for boresighting are contained in Ⓔ T.O. 1F-5E-2-10, Ⓕ T.O. 1F-5F-2-10 series Job Guide Manuals.

PARALLAX ERROR

A parallax error exists at all ranges due to the vertical and horizontal distances between the parallel sight and gun lines. The error is not significant. Aligning the sight and gun lines to converge at a given range is not recommended.

WHEN TO BORESIGHT

The gun is boresighted after gun/gun body replacement or when the rear mount adjustment bolts have been turned. The gun should be boresighted when a significant error between GBL and ZSL becomes apparent through firing the gun.

BORESIGHT TARGET

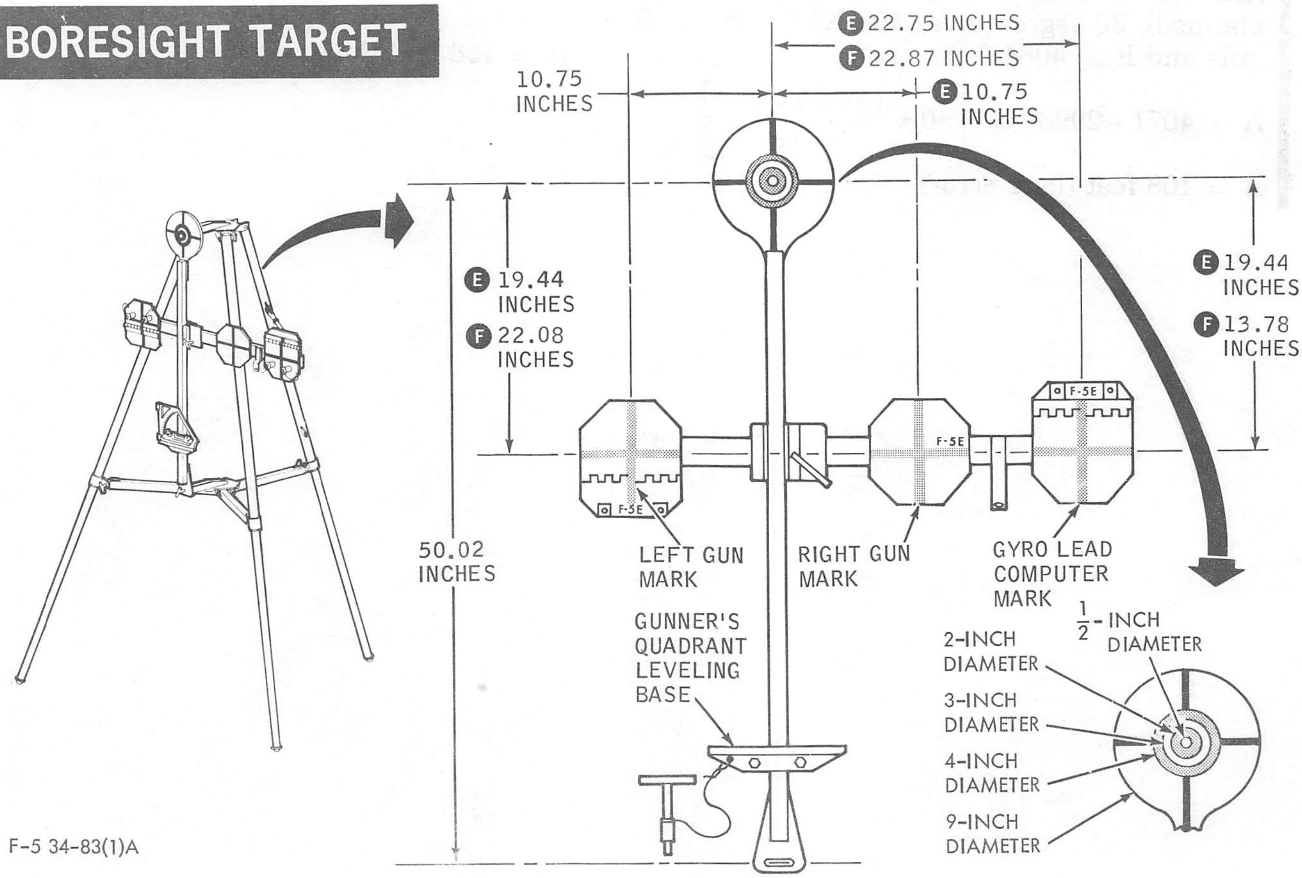


Figure 4-7.

FILM ASSESSING

ASSESSING PROGRAM

A conscientious assessing program results in consistently better weapons delivery scores, better trained and more proficient aircrews, higher fire control and armament systems in commission rates, and most important, maximum benefit from each firing and bombing sortie. During combat, either aerial or ground attack, the sight camera often provides the only method of recording the results of the mission. Proper assessment is an invaluable tool for improving proficiency as well as providing intelligence information. This section includes procedures for analyzing air-to-air and air-to-ground attacks and describes assessing equipment and chart construction. When chart construction is accomplished and the assessing room is organized, the role of the weapons officer in the film assessing program is only partially complete. For the program to be effective, records should be kept of film taken and assessed and individual progress noted. If this is done, and film is assessed regularly, a bonus of improved scores and greater overall effectiveness can be expected. To simplify the assessing process, the projector is normally positioned so the projected image has a scale of ten mils to an inch. Thus, one-tenth inch distance between the pipper and the intended aimpoint equals one foot of miss distance at 1000 feet range, two feet of miss distance at 2000 feet range, and proportionally larger distances for longer ranges (see Assessing Chart Construction).

ASSESSING AIR-TO-AIR FILM

To assess accuracy of attack against an aerial target, the pilot should evaluate firing range, convergence and coincidence of pipper and target, and the timing of fire. With radar lock-on, target range is continuously displayed by the position of the range bar on the sight reticle. Assessing charts (figure 4-8) are used if radar lock-on is lost or not achieved during an attack.

TRACKING ATTACK

The magnitude of error in aiming can be determined by comparing the pipper and target positions in successive film frames and measuring the distance between the pipper and the intended aimpoint. To assess target tracking technique, note the position of the pipper during the pass. The pipper should remain on the aimpoint for 1/2 second prior to open-fire, to eliminate motion between the pipper and target. Run the film of the pass thru several times and look for any motion of the pipper on the target during firing. As noted in Section 1 (GUNS EMPLOYMENT CONCEPT), any motion of the pipper with respect to the target is likely to result in misses because the effect applies over the projectile time of flight.

NONTRACKING ATTACK

Nontracking snapshoot attacks are assessed for convergence of the pipper and target and for timing of the firing burst (figure 4-9). The midpoint of the firing burst should occur one projectile time of flight prior to pipper and target intersection (as extrapolated, if necessary). Run the film of attack thru and note firing range and firing duration. Rerun the film and count the number of frames exposed between open-fire and intersection of pipper with the aimpoint. The position of the pipper and that of the target in the sequence of frames are assessed for linearity (straight line) during firing, and the motion of the pipper and target are extrapolated to determine if intersection occurred. When lead is constant the pipper appears in the same position as the film is advanced.

For example, to assess for correct open-fire range (figure 4-9), if the lower of the two camera speeds is selected and a target range of 1500 feet is assumed, approximately 12 frames are exposed during the 1/2 second of projectile flight at that range. If a 1-second firing burst

ASSESSING AIR-TO-AIR FILM

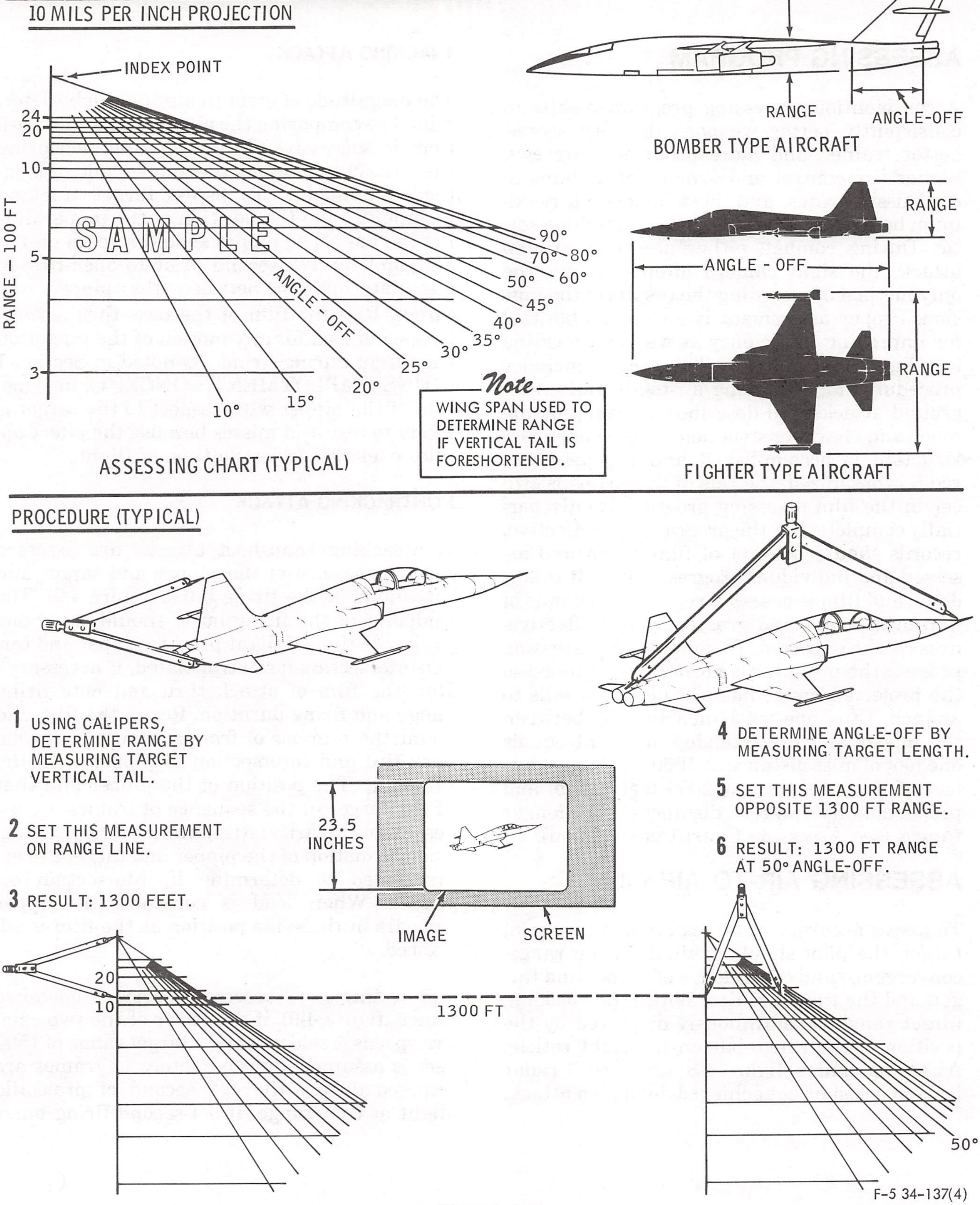


Figure 4-8.

SNAPSHOOT ASSESSING (TYPICAL)

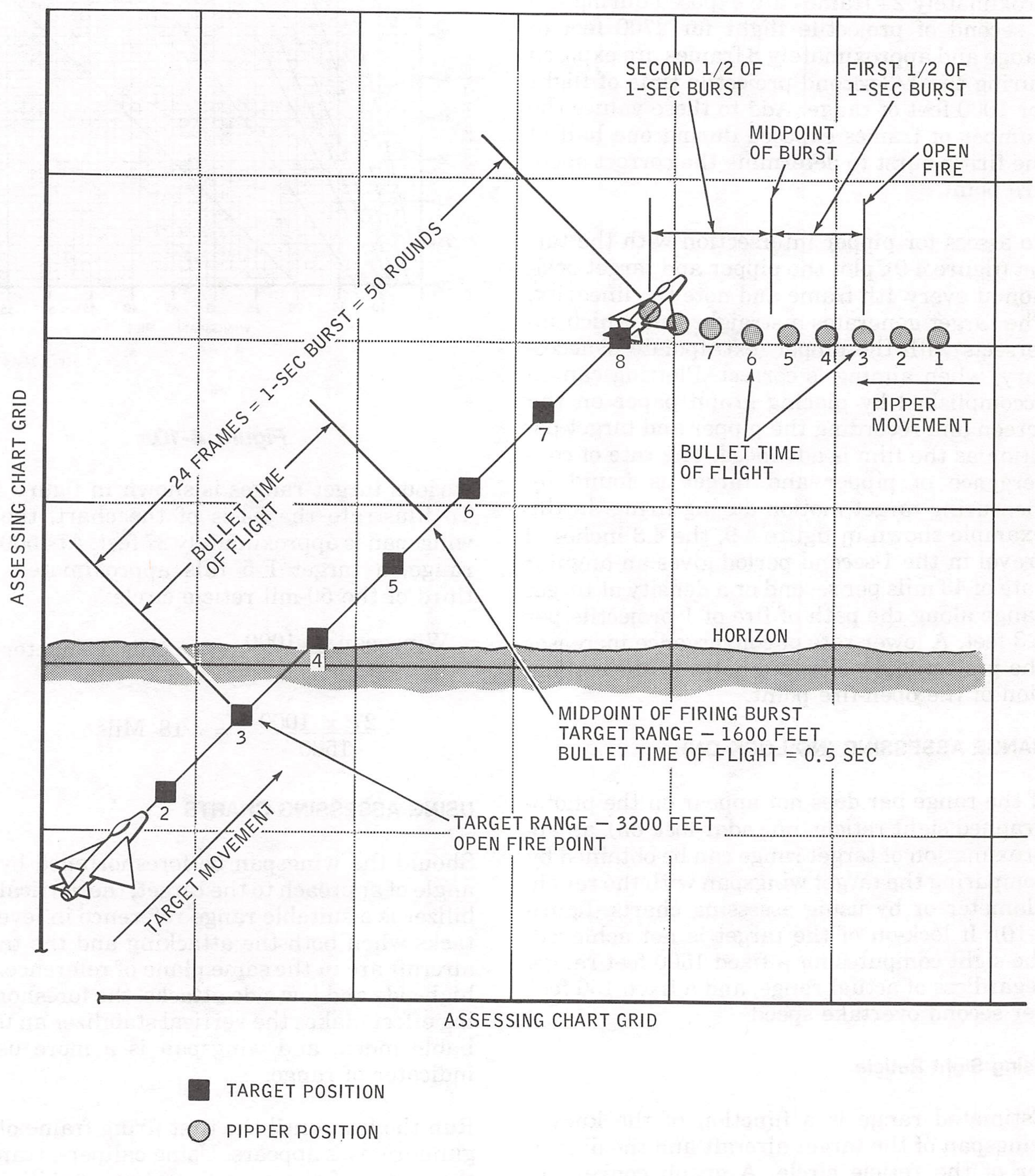


Figure 4-9.

F-5 34-86(1)A

is used, open-fire should occur 1 second or 24 frames prior to intersection of the pipper and aimpoint. Similarly, the number of frames preceding intersection appropriate for open-fire for other target ranges can be determined. Approximately 24 frames are exposed during the 1 second of projectile flight for 2700 feet of range and approximately 8 frames are exposed during the 1/3-second projectile time of flight for 1000 feet of range. Add to these values the number of frames exposed during one half of the firing burst to determine the correct open-fire point.

To assess for pipper intersection with the target (figure 4-9), plot the pipper and target position at every 4th frame and note the linearity. The target generates a straight line which intersects with the pipper (extrapolate if necessary) when aiming is correct. Plotting can be accomplished by placing graph paper on the screen and recording the pipper and target position as the film is advanced. The rate of convergence of pipper and target is found by measuring target motion during firing. In the example shown in figure 4-9, the 4.3 inches of travel in the 1-second period gives an angular rate of 43 mils per second or a density at target range along the path of fire of 1 projectile per 1.3 feet. A lower rate of convergence increases the projectile density and helps in the estimation of the open-fire point.

RANGE ASSESSING (NO LOCK-ON)

If the range bar does not appear on the photographed sight reticle (no radar lock-on), an approximation of target range can be obtained by comparing the target wingspan with the reticle diameter or by using assessing charts (figure 4-10). If lock-on of the target is not achieved, the sight computes for a fixed 1500 feet range, regardless of actual range, and a fixed 150 feet per second overtake speed.

Using Sight Reticle

Estimated range is a function of the known wingspan of the target aircraft and the diameter of the reticle circle. A graph converting wingspan measured in feet to the mils measurement encompassed by the sight reticle for

WINGSPAN CONVERSION - FEET TO MILS

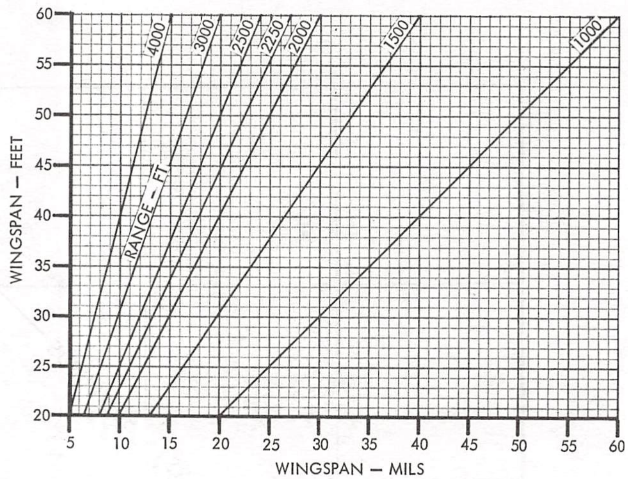


Figure 4-10.

various target ranges is shown in figure 4-10. To illustrate the basis of the chart, the F-5 wingspan is approximately 27 feet. At 1500 feet range, a target F-5 fills approximately one third of the 50-mil reticle circle:

$$\frac{\text{Wingspan x 1000}}{\text{Range}} = \text{Mils Diameter}$$

$$\frac{27 \text{ x } 1000}{1500} = 18 \text{ Mils}$$

USING ASSESSING CHARTS

Should the wingspan be foreshortened by the angle of approach to the target, the vertical stabilizer is a suitable range reference in level attacks when both the attacking and the target aircraft are in the same plane of reference. For high-side and low-side attacks, the foreshortening effect makes the vertical stabilizer an unreliable index, and wingspan is a more useful indicator of range.

Run the film until the first firing frame of the gunnery pass appears. Using calipers, transfer the width of the target (vertical stabilizer or wingspan, whichever is not foreshortened) to the assessing chart (figure 4-8) for the size of

the target being used. Lay this width down the vertical axis of the chart from the baseline, and read range in feet. Compare this assessed range with the desired firing range. Small targets, such as the Dart, are often poorly defined on the film and difficult to measure. Use of color film improves target definition.

ASSESSING AIR-TO-GROUND FILM

Assessing film of dive bombing or rocket deliveries and strafing attacks requires a knowledge of the target size and a comparison of the projected size to the dimensions of an assessing chart. The air-to-ground assessing chart (figure 4-11) is constructed with a known proportional relationship to the target size, thereby permitting determination of the aircraft dive angle and firing slant range. Run the film thru the projector until the opening frame of the pass appears. With calipers, measure the major axis — the axis of the target circle perpendicular to the aircraft path over the ground. Lay this measurement along the vertical axis starting at the index point of the ground attack assessing chart which has been constructed for the specific target. This reading gives the slant range in feet.

Measure the minor axis — the axis to the target parallel to the aircraft path over the ground. Transfer this measurement to the horizontal axis of the ground attack assessing chart. Place one point of the calipers on the vertical axis at the range figure previously determined. The other point of the calipers falls on or between the dive angle lines. Read dive angle in degrees. Dive angle given by the chart is based on the sightline. The amount of sight depression from flight path should be subtracted from the chart value to obtain the actual dive angle. For example, if 105 mils of depression had been set it would be necessary to subtract 6 degrees from the assessed dive angle to arrive at the flight path dive angle.

ASSESSING CHART CONSTRUCTION

The following information covers the construction of assessing charts for the 50mm focal length lens on the KB-26A sight camera and the 2-inch lens of the AQ8B projector. Procedures and formulas outlined are applicable to any camera lens, but it is necessary to substitute different values for the angle of projection of other lenses and to prepare a chart for each specific target dimension. Charts presently in use are designed for a projection image with a scale of 10 mils per inch. Although larger images would tend to promote accuracy in using the charts, poor film quality produces unacceptable target definition.

The angular projection of the 50mm lens is 280 mils. To establish a 10 mils to the inch scale on the screen, the projector is positioned to obtain a projected frame height of 28 inches (erecting prism on projector, see figure 4-12). The lens to screen distance should be approximately 101 inches to achieve a frame height of 28 inches. The projected sight reticle measures 5 inches. This 101-inch length can be reduced in the interest of compactness of the assessing layout by constructing a booth using mirrors to bend the projected beam. Since the sight camera is mounted on its side, it is necessary to use an erecting prism on the projector to obtain an upright image on the screen. Use of an assessing booth eliminates the need for a prism. Chart construction is accomplished in three steps (the third step is used only when dive angle must be determined):

STEP 1. Determine target size, in mils, for a specified range. This is accomplished by substituting into the formula:

$$\frac{\text{Target dimension x 1000}}{\text{Range}} = \text{Target size in mils.}$$

STEP 2. Convert target size, in mils, to range in inches. To do this substitute into the formula:

$$\frac{\text{Target size in mils}}{\text{Mils per inch on screen}} = \text{Range in inches.}$$

STEP 3. Determine length of the minor axis of the bombing circle or strafe panel, in inches, for the specified range and dive angle (figure 4-11). This is done by using the following formula:

$$\frac{\text{Target size in mils X sine of dive angle}}{\text{Mils per inch on screen}} = \text{Minor axis, in inches.}$$

ASSESSING AIR-TO-GROUND FILM

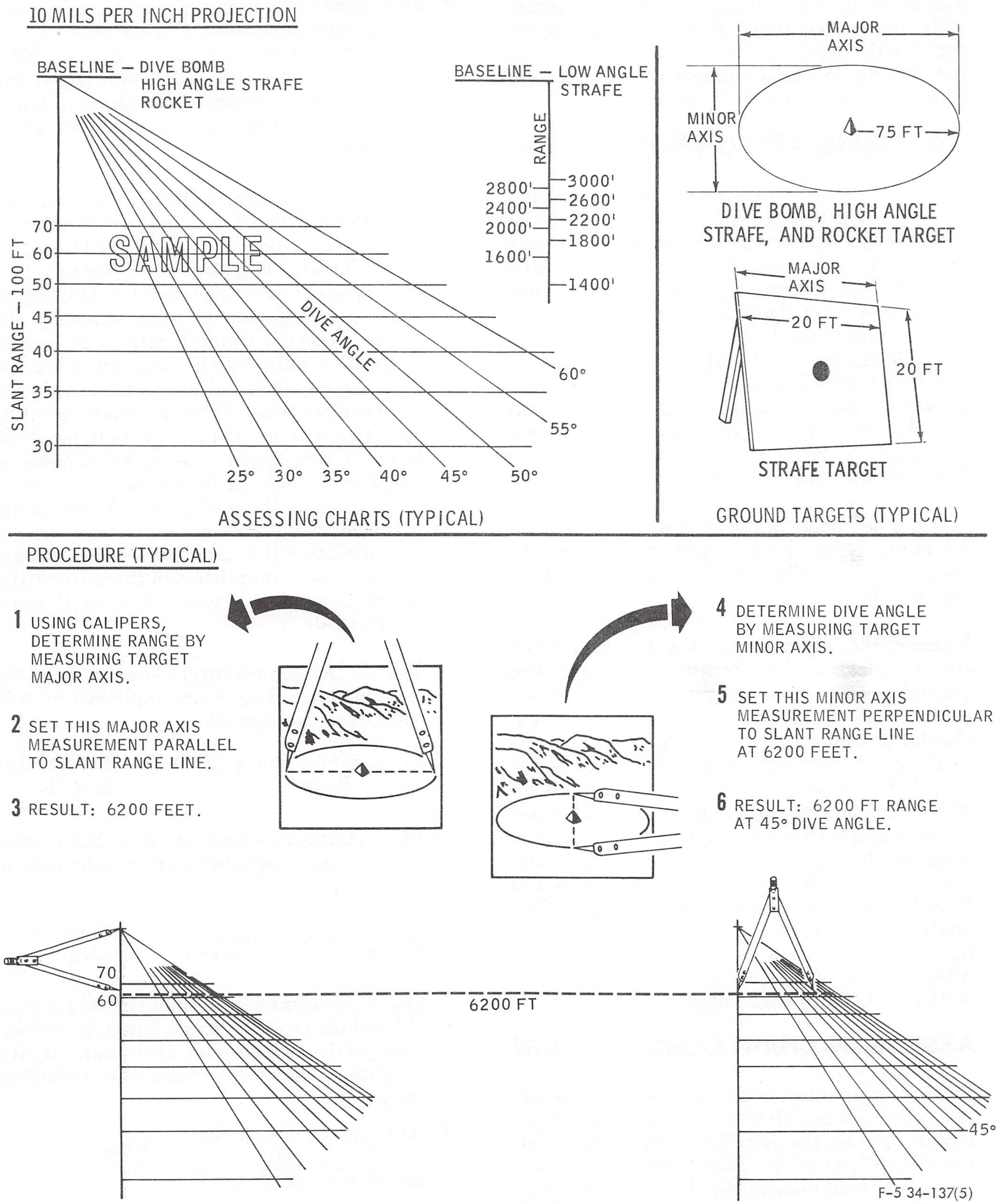


Figure 4-11.

AIR-TO-AIR ASSESSING CHART CONSTRUCTION

Determine the axis dimension of the target aircraft or aerial target most usable for range assessment and convert this measurement in feet to target size in mils as shown in step 1. Then convert the target mils measurement to inches of range measurement for chart construction as shown in step 2. Since 10 mils represent 1 inch on the screen, move the decimal point one place to the left in the result obtained from step 1 (dividing mil values by 10) to complete step 2. The chart can now be constructed (as shown in figure 4-8) with the measurements taken from the baseline. To construct a dart assessing chart, use 5 feet as the target dimension and appropriate selected ranges. At the greater ranges, this chart is likely to produce major errors in measurement because of poor target definition and proximity of the range lines on the chart. This tendency to induce error is accentuated by target size, firing speeds, and firing ranges.

AIR-TO-GROUND ASSESSING CHART CONSTRUCTION

To construct an air-to-ground assessing chart, use the same procedures to determine range lines, then substitute into the formula for step 3 to compute the length of the minor axis of the bombing circle or strafe target for various dive angles. Although it will be necessary to compute these for only one selected range (range has a proportional relationship to dive angle), it is wise to check accuracy of work by computing dive angles for at least three ranges. Measurements for fixing the position of range lines are taken from the index point. After range lines have been drawn (as shown in figure 4-11), determine the points of intersection and draw in the dive-angle lines as shown (measurements are made from the vertical line).

ASSESSING ROOM EQUIPMENT

The film assessing room should include the following equipment (figure 4-12):

a. AQ8B 16mm motion picture projector, or equivalent, with image erecting prism.

b. Assessing booth or table to contain the projector (projector prism not needed if booth used).

c. Projector screen (if booth not constructed).

d. Calipers.

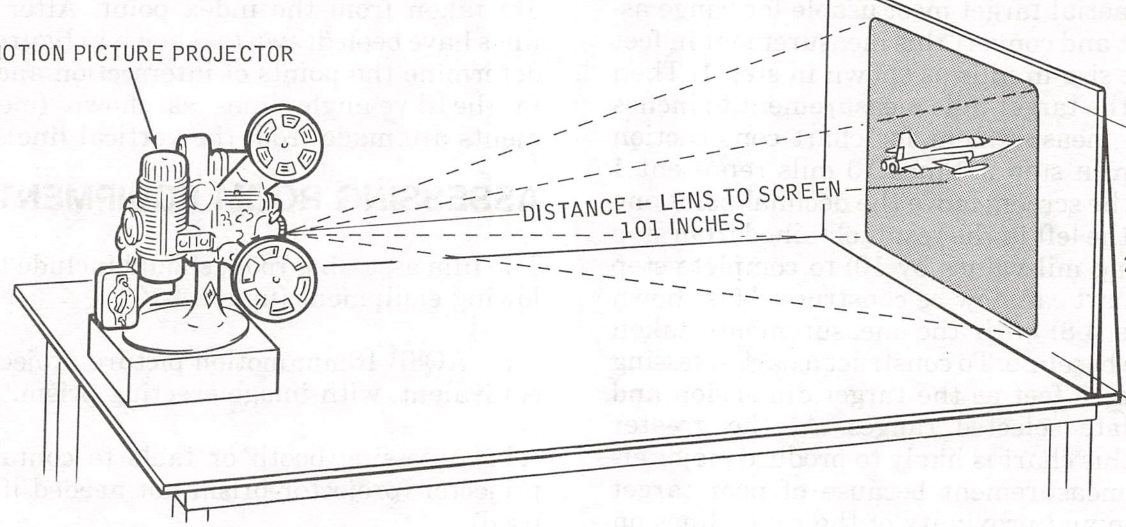
e. Film needs.

f. Film rack storage.

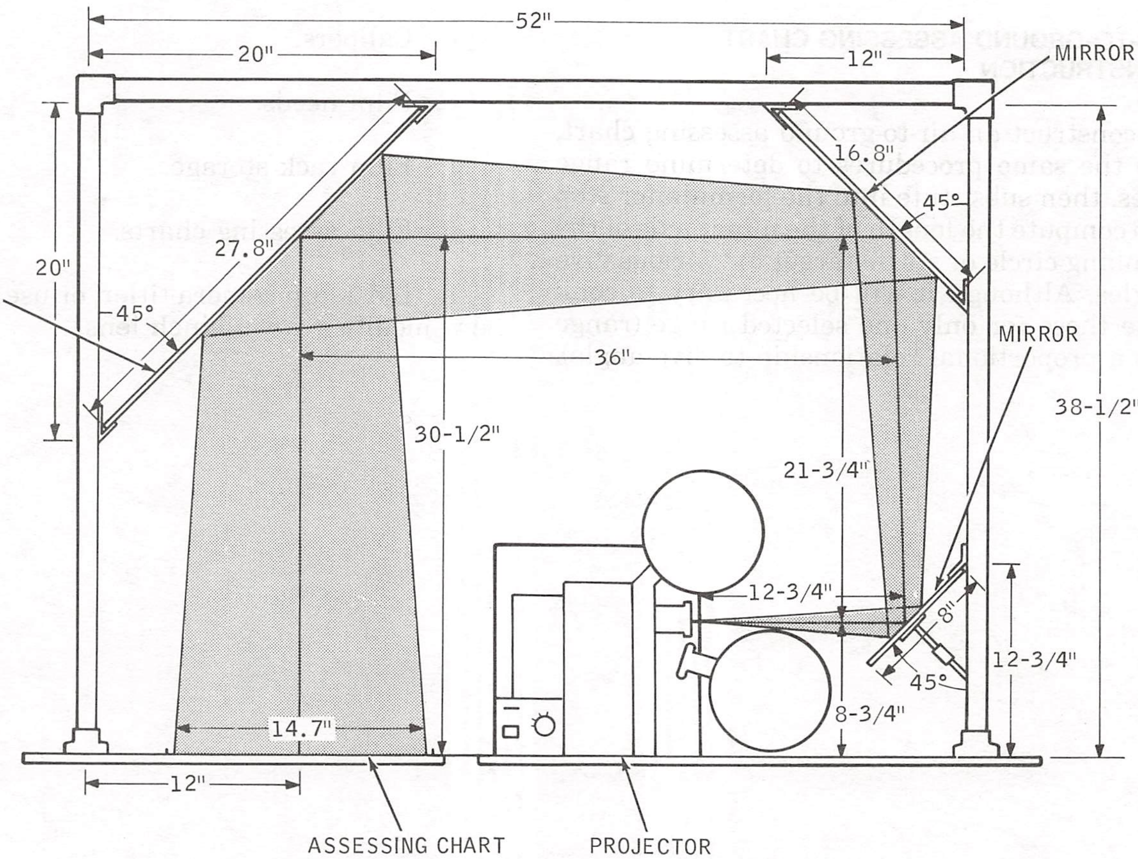
g. Film assessing charts.

h. LM-1 gun camera titler, or use sight camera modified with 3-inch lens.

ASSESSING EQUIPMENT—GENERAL LAYOUT



ASSESSING TABLE (VERTICAL SCREEN)



ASSESSING CONTRAPTION (HORIZONTAL SCREEN)

F-5E 34-139

Figure 4-12.

CONVERSION VALUES

MIL

A mil is a unit of angular measure, defined precisely as 1/6280 of a circle. For ease of computation, the value is rounded to 17.45 mils = 1 degree. An angle in mils is defined in terms of the chord that subtends the angle at 1000 units of distance. For example:

1 mil = 1 inch at 1000 inches
1 mil = 1 foot at 1000 feet
10 mils = 100 feet at 10,000 feet

For small angles encountered in boresighting, the above definition is sufficiently exact and enables an angle to be easily converted to linear distance on a boresight target. The conversion equation is:

$$\text{Linear Distance on the Boresight Target} = \frac{\text{Angle in mils}}{1000} = \text{Range.}$$

When the angle becomes greater (as in dive bombing), the angle in mils is defined in terms of the arc that subtends the angle at 1000 units of distance (figure 4-13).

MILS-DEGREES EQUIVALENT

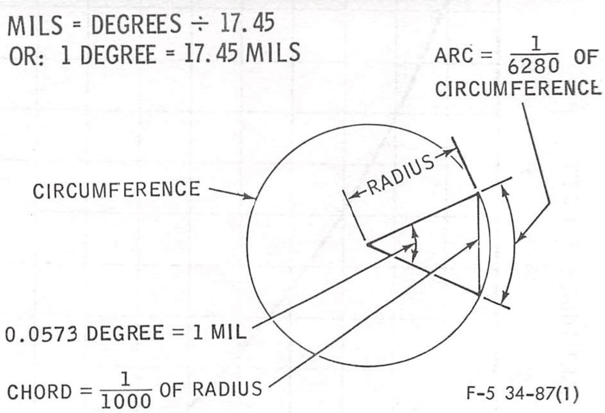


Figure 4-13.

CONVERSION VALUES

LENGTH

1 inch = 0.0833 feet
1 inch = 0.0254 meters

1 foot = 12 inches
1 foot = 0.3048 meters

1 meter = 39.37 inches
1 meter = 3.281 feet

1 kilometer = 3281 feet
1 kilometer = 0.6124 mile
1 kilometer = 0.5400 nm

1 mile = 5280 feet
1 mile = 1.60934 kilometers
1 mile = 0.86898 nm

1 nm = 6076 feet
1 nm = 1.852 kilometers
1 nm = 1.1508 miles

VELOCITY

1 kilometer/hour = 0.9113 ft/sec
1 MPH = 1.4667 ft/sec
1 knot = 1.6878 ft/sec

WEIGHT

1 pound = 453.59 grams
1 kilogram = 2.2046 pounds

TEMPERATURE

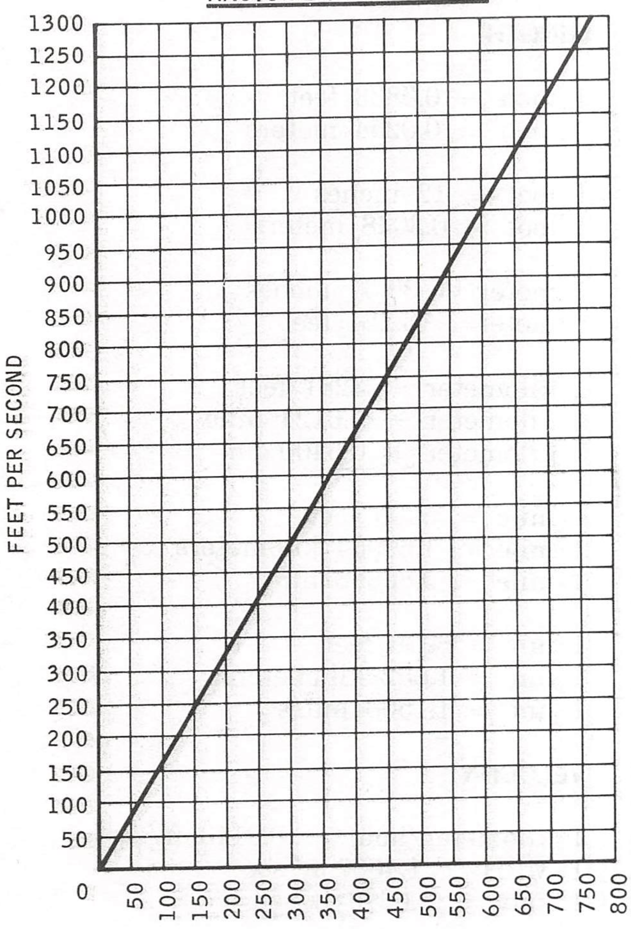
Degrees C = 0.5556 (degrees F - 32°)
Degrees F = 1.8 (degrees C) + 32°

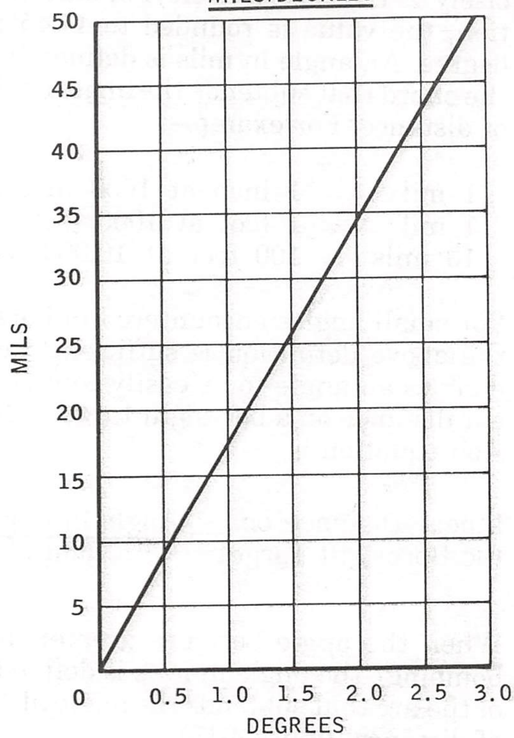
OTHER

29.921 inches Hg = 1014.27 millibars
1 g = 32.1737 ft/sec/sec
1 mil = 0.0573 degrees
1 degree = 17.45 mils

Figure 4-14 contains charts for converting various values of speed, distance, angle, and air density.

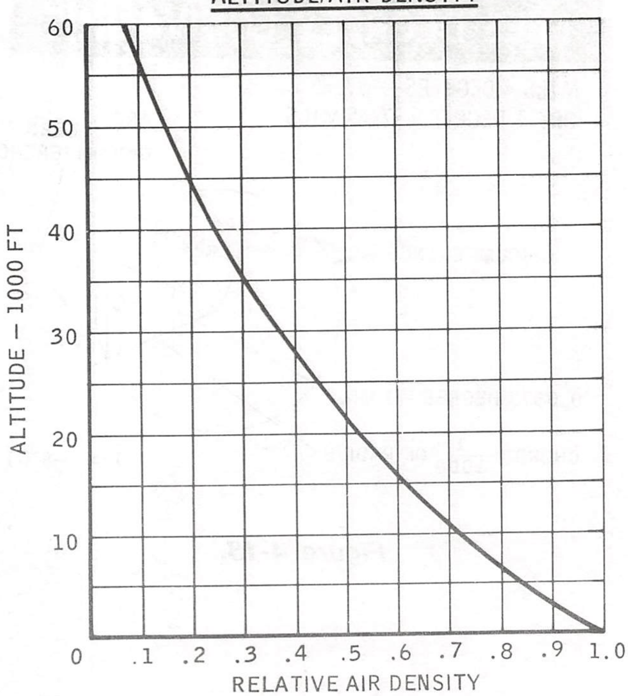
CONVERSION CHARTS





SPEED PER HOUR

NM	MILES	KILOMETERS
50	58	93
100	115	185
125	144	231
150	173	278
175	201	324
200	230	370
225	259	417
250	288	463
300	345	556
350	403	648
400	460	741
500	575	926
600	690	1111
700	806	1296



F-5 34-88(3)

Figure 4-14.



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DESCRIPTION OF TABLES

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DESCRIPTION OF TABLES (Continued)

BOMBING SAMPLE PROBLEM

ROCKET LAUNCH SAMPLE PROBLEM

INTRODUCTION

PURPOSE

The purpose of this section is to provide the description of data required to plan a weapon delivery mission and to illustrate the planning procedures. All charts and tables required for mission planning are contained in Section VI.

AMBIENT ATMOSPHERE COMPUTATION BASIS

All ballistic table computations are based on the ICAO standard day atmosphere. Ambient temperature and pressure variations from the standard day do not significantly affect trajectory computations because the weapon time of flight is generally short.

AIRCRAFT REFERENCE LINES

The various aircraft reference lines used in the weapons delivery computations are illustrated in figure 5-1.

PRESSURE ALTITUDE

Pressure altitude is the altitude measured from standard sea level pressure, 29.92 inches of mercury (Hg). The altimeter indicates pressure altitude when set on 29.92 inches Hg. Target pressure altitude used in mission planning is obtained from the weather forecaster or based on the prevailing pressure altitude.

REFERENCE LINES

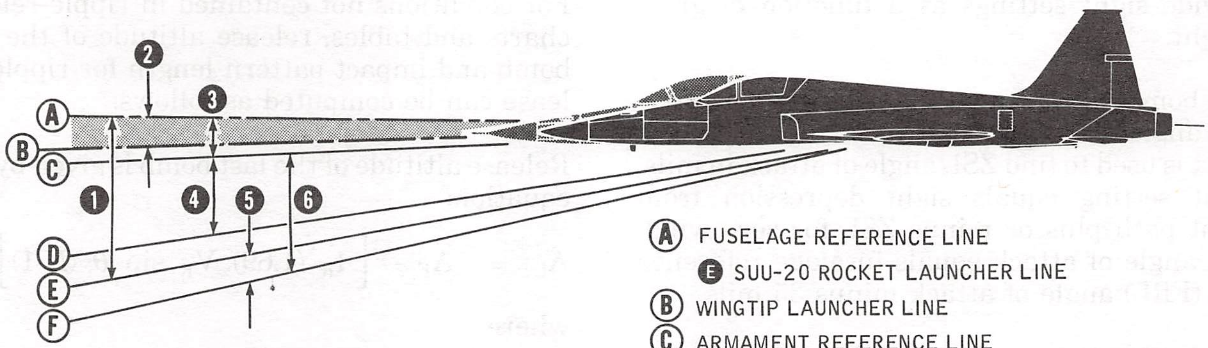


Figure 5-1.

Target pressure altitude can be computed if the altimeter setting for the target is known. Subtract the altimeter setting from 29.92 and apply the standard lapse rate (0.10 inch Hg = 100 feet) to the pressure difference. If the answer is negative (-), subtract the difference from target elevation. If the answer is positive (+), add the difference to the target elevation.

NOTE

If release pressure altitude is not known, release altitude MSL may be used (i.e., release altitude AGL plus target elevation MSL).

EXAMPLE

Standard Datum Plane (Pressure Altitude)	29.92 in. Hg
Altimeter Setting	-30.72 in. Hg
Pressure Difference	-0.80 in. Hg
Lapse Rate 100 ft x (-0.80) in. Hg	-800 feet
Release Altitude MSL	5000 feet
Altitude Difference	-800 feet
Release Pressure Altitude	4200 feet

SIGHT SETTING COMPUTATION

The rocket launch and 20mm ballistic tables provide sight settings as a function of gross weight.

The bombing tables provide the sight depression angle from flight path. The angle of attack chart is used to find ZSL angle of attack in mils. Sight setting equals sight depression from flight path plus or minus ZSL for zero wind. ZSL angle of attack equals fuselage reference line (FRL) angle of attack minus 35 mils.

Wind correction can be applied to the sight setting or wind correction can be made by estimating an upwind aimpoint. The tables provide the data required for both methods of wind correction. The mil correction is added for headwind and subtracted for tailwind.

INTERPOLATION OF BALLISTIC TABLES

If deemed necessary to interpolate between values in the ballistic tables, a linear interpolation is adequate. If an exact interpolation is required, the following review may be helpful. Assume that the sight depression is to be interpolated for 422 knots TAS:

$$420 \text{ knots} = 120 \text{ mils}$$

$$440 \text{ knots} = \underline{-112} \text{ mils}$$

$$8 \text{ mils}$$

$$\frac{(440 \text{ knots}) - (422 \text{ knots})}{(440 \text{ knots}) - (420 \text{ knots})} \times 8 \text{ mils}$$

$$\frac{18}{20} \times 8 = 7.2 \text{ mils}$$

$$7.2 + 112 = 119.2 \text{ mils}$$

$$422 \text{ knots} = 119.2 \text{ mils}$$

RELEASE ALTITUDE AND PATTERN LENGTH — RIPPLE RELEASE

For conditions not contained in ripple release charts and tables, release altitude of the last bomb and impact pattern length for ripple release can be computed as follows:

Release altitude of the last bomb is given by the equation:

$$A_L = A_F - \left[I_R \,(1.69)\, V_R \sin\theta \,(N\text{-}1) \right]$$

where

A_L = release altitude of last bomb in feet.

A_F = release altitude of first bomb in feet.

I_R = release interval in seconds.

V_R = release true airspeed in knots.

θ = dive angle in degrees.

N = number of bombs in ripple release.

(1.69 is the constant used to convert knots to feet per second)

NOTE

The release altitude of the last bomb must be high enough for fuze arming, ground clearance during recovery, and fragment envelope clearance.

To determine impact pattern length, the ranges of the first and last bombs are found in bombing tables using the release altitude of the last bomb derived from the previous equation. It is necessary to interpolate to find the range of the last bomb. The difference in ranges (ΔR) is used in the following equation to obtain pattern length for dive releases:

$$PL = \left[I_R \,(1.69)\, V_R \cos\theta \,(N\text{-}1) \right] - \Delta R$$

where symbol meaning is as above and

PL = pattern length in feet.

ΔR = difference in feet between ranges of first and last bombs.

NOTE

ΔR is zero for level releases at constant TAS.

The average ground impact bomb spacing may be computed by use of the following formula:

$$S = \frac{PL}{(N-1)}$$

where

PL = pattern length in feet.

N-1 = Number of bombs minus one.

MISSION PLANNING FORM

A typical mission planning form is illustrated in figure 6-1, sheets 1 and 2.

MISSION PLANNING DATA

Aircraft basic and operating weights, weapons weights, and accessory weights are listed in T.O. 1-1B-40. Weight information is also contained in Appendix 1 of flight manual/ supplemental flight manual.

AUTHORIZED LOAD CONFIGURATIONS

Authorized load configurations with inflight carriage, employment, and release/jettison limits are listed in flight manual/ supplemental flight manual.

DESCRIPTION OF CHARTS

ANGLE-OF-ATTACK CHART (AIR-TO-GROUND)

Angle-of-attack charts for air-to-ground attack representative of four typical aircraft configurations are presented in figure 6-2. Use of the charts determines fuselage reference line (FRL) and zero sight line (ZSL) angle of attack in mils to provide sight correction data for weapon release. The unit of measurement used is 1 degree = 17.45 mils. Correction mils for configuration (chart B) and flap position (chart C) are added to the baseline AOA mils (chart A) to find the FRL AOA. The applicable portion of chart B to be used for a particular weapon load is shown by the aircraft silhouette which accompanies the individual graphs. The data is a function of airspeed, pressure altitude, dive angle, and aircraft gross weight.

USE

Enter chart A with the desired indicated airspeed, proceed up to the appropriate pressure altitude curve, then right to the planned dive angle curve, down to the appropriate aircraft gross weight curve, then left to read angle of attack in mils. Next enter chart B (correction for configuration) with the same indicated airspeed and proceed up to the pressure altitude curve appropriate to the aircraft configuration identified by the aircraft silhouettes, then left to read correction to angle of attack in mils. If maneuver or cruise/fixed flap settings are used during the attack, enter chart C (correction for flaps) with the same indicated airspeed and proceed up to the appropriate pressure altitude curve, then left to read the correction to angle of attack in mils. Note that chart C values are negative. The angle of attack as measured from the FRL is the algebraic sum of the mil angles obtained from charts A, B, and C. Since the ZSL is 2 degrees below the FRL, subtract 35 mils from the sum obtained from the charts to determine sight depression setting.

SAMPLE PROBLEM

Given:

Three MK-82 bombs, five pylons

Gross weight over target — 16,000 pounds (2700 lb of fuel remaining)

Release airspeed — 470 KIAS

Pressure altitude — 4000 ft

Release dive angle — 30 degrees

Wing flaps — 0°/8° (cruise) or 12°/8° maneuvering)

Calculate ZSL angle of attack in mils:

Enter chart A (figure 6-2) with:

① Airspeed — 470 KIAS

② Pressure altitude — 4000 ft

③ Dive angle — 30 degrees

④ Gross weight — 16,000 lb

⑤ Read angle of attack — 25 mils

Enter chart B with:

⑥ Airspeed — 470 KIAS

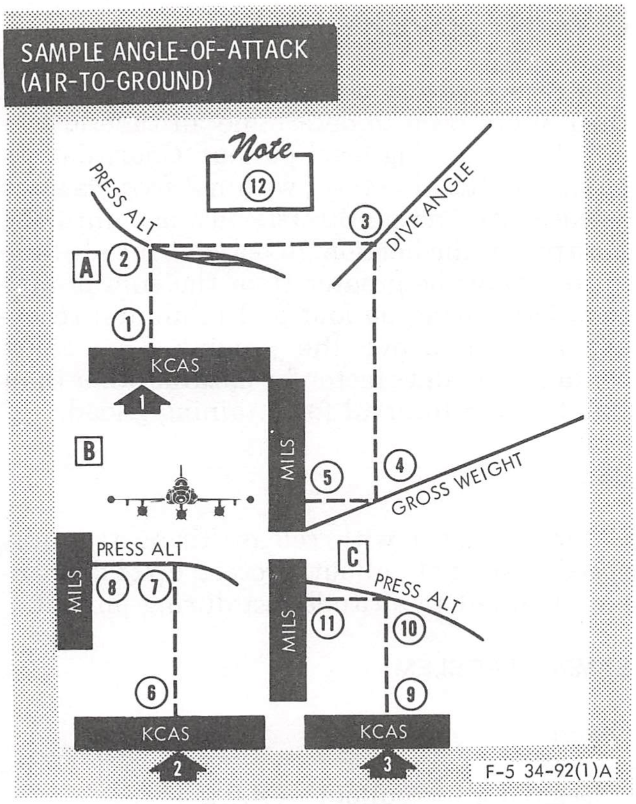
⑦ Pressure altitude — 4000 ft

⑧ Read angle-of-attack correction — 12 mils

Enter chart C with:

⑨ Airspeed — 470 KIAS

⑩ Pressure altitude — 4000 ft



⑪ Read angle-of-attack correction — -24 mils

⑫ FRL angle of attack = A + B + C

FRL = 25 + 12 - 24 = 13 mils

ZSL angle of attack = FRL angle of attack - 35 mils

ZSL angle of attack = 13 - 35
ZSL angle of attack = -22 mils

AIRSPEED CONVERSION CHART

The airspeed conversion chart for pressure altitudes from sea level to 15,000 feet (figure 6-3) is used to convert indicated airspeed (KIAS) to true mach number, to true airspeed (KTAS) and/or vice versa. Release/firing pressure altitude and free-air temperature (°C) are required for use of this chart.

USE

Enter the chart with KIAS, proceed right to release/firing pressure altitude, then down thru mach number to release/firing temperature, then left to KTAS. Reverse this procedure for KTAS to KIAS conversion.

SAMPLE PROBLEM

Given:

True airspeed — 450 KTAS

Temperature — +20°C

Pressure altitude — 3000 ft

Calculate:

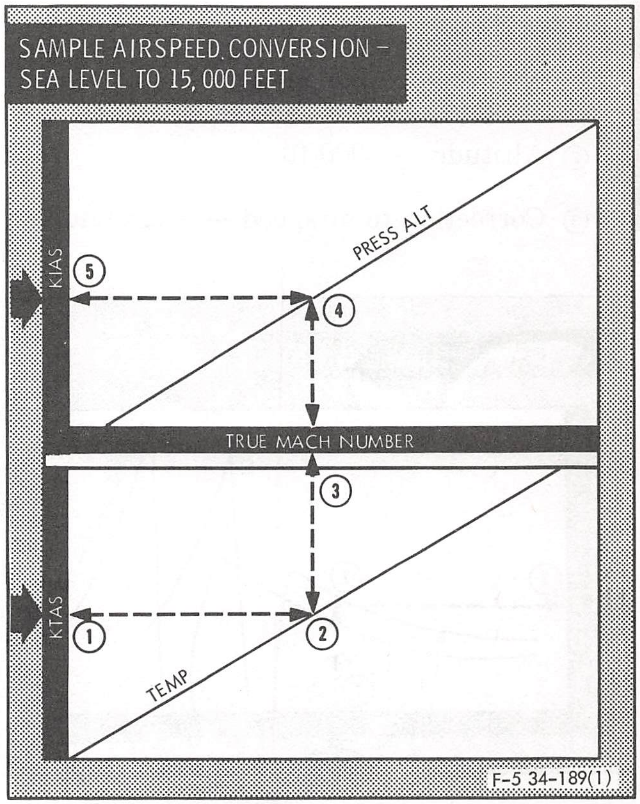
① Airspeed — 450 KTAS

② Temperature — 20°

③ True mach number — 0.675

④ Pressure altitude — 3000 ft

⑤ Airspeed — 425 KIAS



AIRSPEED CORRECTION CHART

The airspeed correction chart (figure 6-4) is used to correct the airspeed reading for installation error. The correction is a function of release/firing pressure altitude and calibrated airspeed.

USE

Enter the chart with knots calibrated airspeed (KCAS), proceed up to release/firing pressure altitude, then left to the airspeed correction in knots. To determine KIAS, add the plus or minus correction to KCAS.

SAMPLE PROBLEM

Given:

Aircraft with shark nose radome

Release/firing airspeed — 480 KCAS

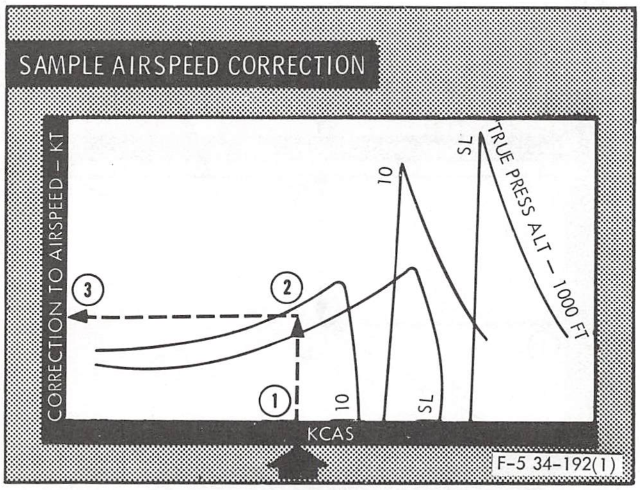
Release/firing altitude — 5000 ft

Calculate:

① Airspeed — 480 KCAS

② Altitude — 5000 ft

③ Correction to airspeed — +0.6 knots



DIVE RECOVERY CHART

The dive recovery charts (figure 6-5, sheets 1 thru 3) are used to determine altitude lost in a 3, 4, or 5 g wing level pullout. Chart data is based on attaining the g within 2 seconds after release/fire and no throttle advance until the nose passes the horizon. Release/firing altitude must always be greater than the sum of altitude lost during pullout and minimum recovery altitude above the ground. This chart contains no safety factor for hazards other than the 2-second interval for attaining g-load.

USE

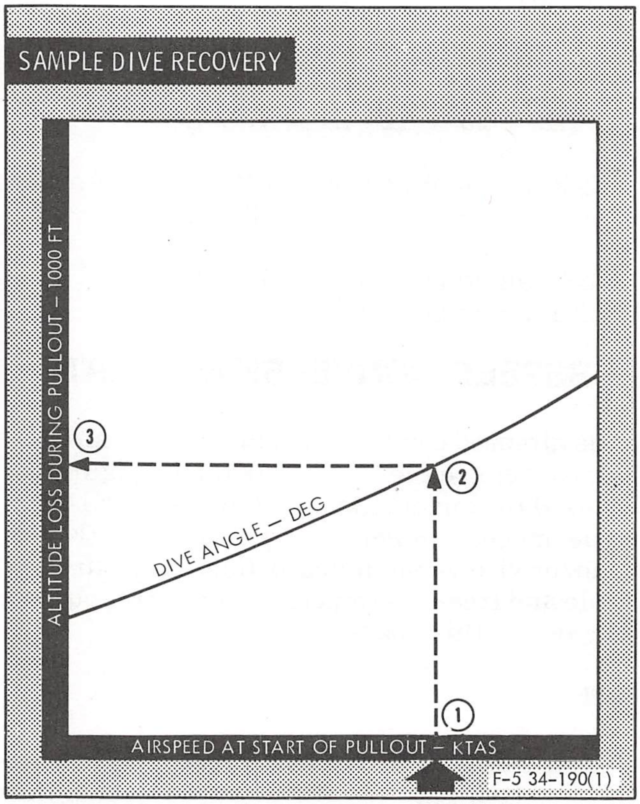
Enter the chart with release/firing true airspeed at start of pullout, proceed up to dive angle, then left to altitude lost during pullout.

SAMPLE PROBLEM

Given:

Desired g for pullout — 4.0 g

Pullout — Wings level



Airspeed at start of pullout — 520 KTAS

Dive angle at start of pullout — 45°

Calculate:

① Airspeed — 520 KTAS

② Dive angle — 45°

③ Altitude loss — 3100 ft

DIVE RECOVERY-LEVEL AND BANKED TURN PULLOUT (LOW ALTITUDE)

The dive recovery table (figure 6-6) for a wing level or banked turn pullout presents the altitude lost during recovery from dive angles of 15 thru 60 degrees. Release/firing altitude must always be greater than the sum of altitude lost during pullout and minimum recovery altitude above the ground. The pullup acceleration is assumed to be 4.0 g obtained in 2 seconds.

ALTIMETER CORRECTION CHART

The altimeter installation error correction chart (figure 6-7) provides error correction for the AAU-19/A altimeter in standby (STBY) mode, AAU-34/A altimeter in pneumatic (PNEU) mode, and for aircraft equipped with the AAU-7A/A altimeter. The magnitude of error is a function of release/firing pressure altitude and calibrated airspeed.

USE

Enter the chart with KCAS, proceed up to release/firing pressure altitude, then left to the altitude error correction in feet.

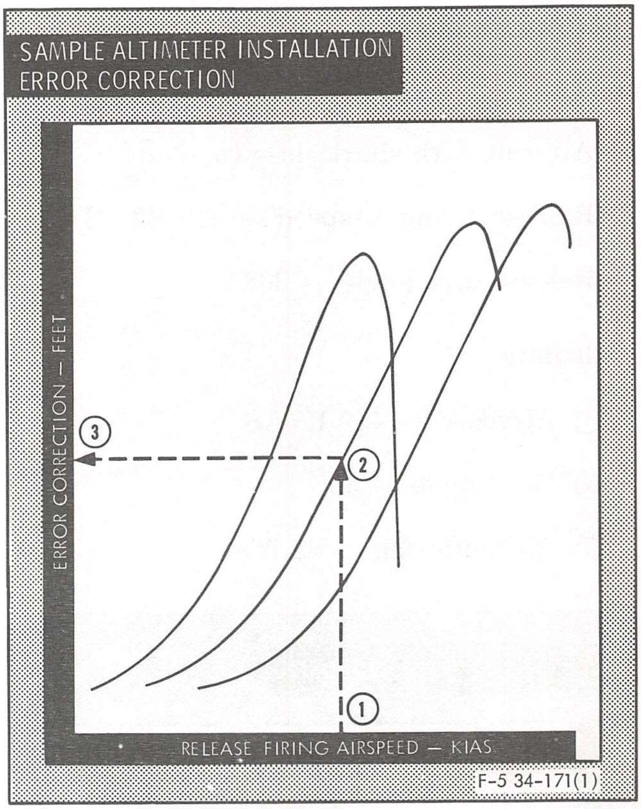
SAMPLE PROBLEM

Given:

Aircraft with shark nose radome

Release/firing airspeed — 450 KCAS

Release/firing altitude — 5000 ft



Calculate:

① Release/firing airspeed — 450 KCAS

② Release/firing altitude — 5000 ft

③ Altimeter error correction — 16 ft

ALTIMETER LAG CHART

The altimeter lag chart (figure 6-8) is used to determine altimeter lag for various dive angles and release/firing airspeeds. Altimeter lag must be considered in the determination of the release/firing indicated altitude for dive maneuvers. The chart is applicable to the AAU-19/A, AAU-34/A altimeters in either mode and to aircraft with the AAU-7A/A altimeter.

USE

Enter the altimeter lag chart with release/firing KTAS, proceed to dive angle, then down to altimeter lag in feet. This correction is positive.

SAMPLE PROBLEM

Given:

Aircraft with shark nose radome

Release/firing airspeed — 480 KTAS

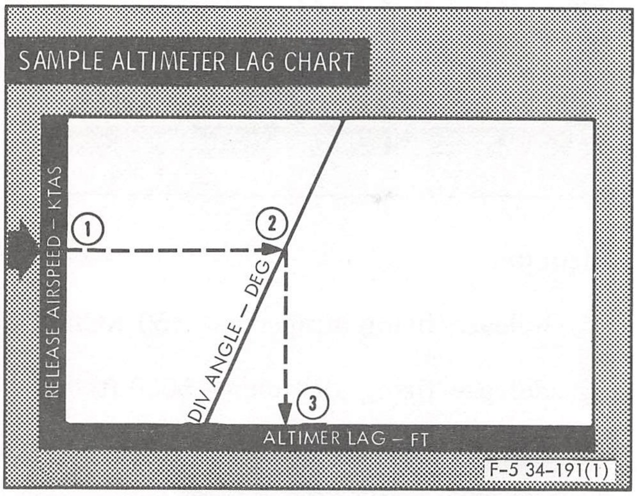
Release dive angle — 30°

Calculate:

① Airspeed — 480 KTAS

② Dive angle — 30°

③ Altimeter lag — 82 ft



RELEASE/FIRING INDICATED ALTITUDE

Release/firing indicated altitude is the sum of the following items:

a. Target altitude above MSL

b. Release/firing altitude above target

c. Altimeter lag

d. Altimeter installation error correction

LUU-1/B AND LUU-5/B FLARE WIND CORRECTION FACTORS CHART

The wind correction factors chart (figure 6-9) is used to determine the wind correction required to place the LUU-1/B and LUU-5/B target marker flares on a selected ground impact point.

USE

Enter the chart with the total time of fall in seconds, proceed right to the slanted factor line, then down vertically to read the correction factor required for each knot of wind velocity. Multiply the correction factor by the wind velocity in knots to obtain the horizontal distance upwind of the ground impact point required for release of the flares.

SAMPLE PROBLEM

Given:

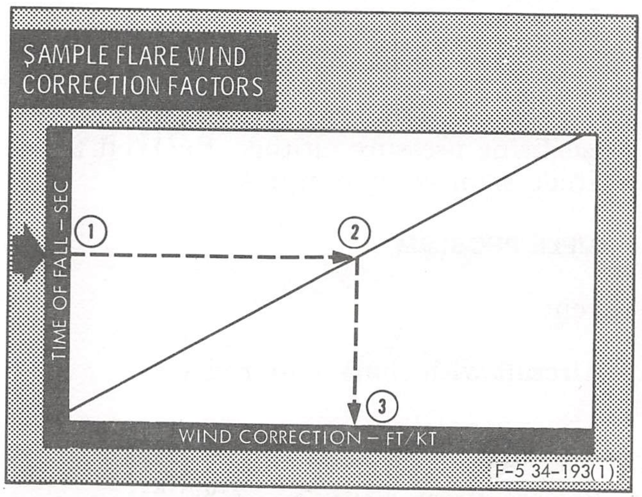
Time of fall — 30 seconds

Calculate:

① Time of fall — 30 seconds

② Base line

③ Wind correction — 51 feet per knot of wind



RELATIVE WIND VECTOR CHART

The relative wind vector chart (figure 6-10) is used to resolve release/firing altitude wind into rangewind and crosswind components. Relative wind direction must be determined before entering the relative wind vector chart. Obtain relative wind direction by subtracting approach course to target from the wind direction. If the aircraft course to target is greater than the wind direction, add 360 degrees to the wind direction, then subtract the approach course to obtain the relative wind direction.

USE

Enter relative wind vector chart at the circumference with the relative wind direction, proceed along the relative wind direction line toward the center of the circle to the appropriate wind velocity circle, then parallel the grid lines to the horizontal and vertical axes to read rangewind (headwind or tailwind) and crosswind (left or right).

SAMPLE PROBLEM

Given:

A. Forecast wind: 350 degrees/30 kt True.

B. Aircraft approach course to target: 040 degrees True.

Calculate:

A. Relative wind direction, rangewind, and crosswind.

Thus: True Wind Direction - True Course = Relative Wind Direction.

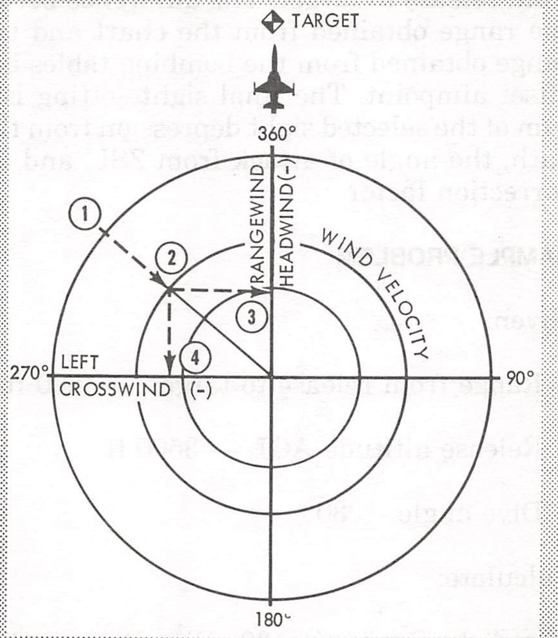
350 degrees - 040 degrees = 310 degrees

B. Enter Relative Wind Vector chart (figure 6-10) to determine rangewind and crosswind components.

① Relative Wind Vector — 310 degrees

② Wind Velocity — 30 kt

SAMPLE RELATIVE WIND VECTOR



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③ Rangewind — 19.5 kt (headwind)

④ Crosswind — 23 kt (left)

SIGHT DEPRESSION CHART

The 13 sight depression charts (figure 6-11, sheets 1 thru 13) provide the sight angle in mils for a given release altitude AGL and horizontal distance from release to impact, for level release and for dive release from 5 thru 60 degrees, in 5 degree increments.

USE

To obtain the sight depression angle from flight path, enter the chart with range from release to target in feet, proceed right to release altitude AGL, then down to read the sight depression angle from flight path in mils. To compute the final sight setting, algebraically add the angle of attack from ZSL and wind correction factors. The charts can be used to compute an offset aimpoint if the required sight depression for a desired release condition is greater than the capability of the sight. To compute an offset

aimpoint, enter the chart with a desired sight depression from flight path, proceed up to the release altitude AGL, then left to read range from release to target. The difference between the range obtained from the chart and bomb range obtained from the bombing tables is the offset aimpoint. The final sight setting is the sum of the selected sight depression from flight path, the angle of attack from ZSL, and wind correction factor.

SAMPLE PROBLEM

Given:

Range from release to target — 4800 ft

Release altitude AGL — 3500 ft

Dive angle — 30°

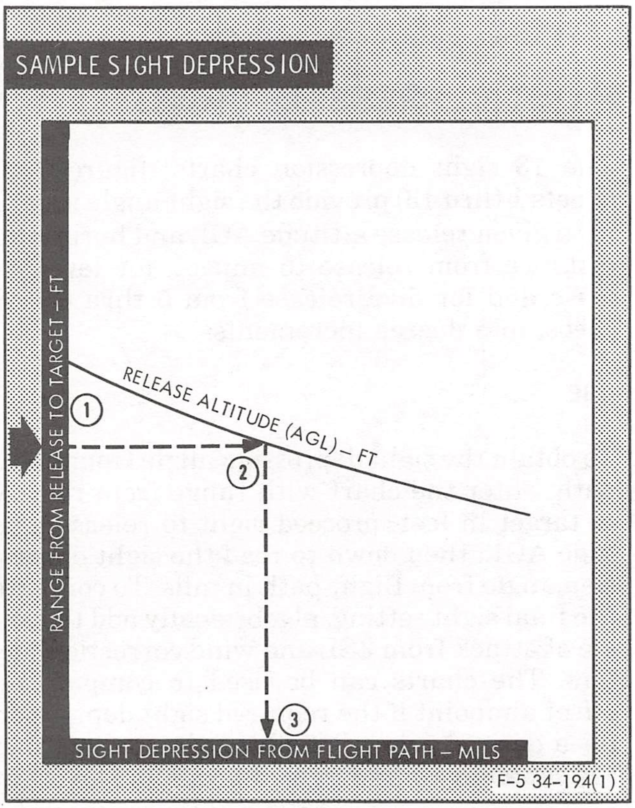
Calculate:

Use Sight Depression 30° Dive Release Chart:

① Range — 4800 ft

② Release altitude — 3500 ft

③ Sight depression from flight path — 111 mils



AIM-OFF DISTANCE CHART

The aim-off distance charts (figure 6-12, sheets 1 thru 5) are used to determine initial pipper placement (in mils) short of the target during air-to-ground delivery attacks for dive angles of 10, 15, 20, 30, and 45 degrees. Determining initial pipper placement assists in more accurate weapons delivery. Actual pipper placement can be determined for any altitude/airspeed combination from rollout until release.

USE

For a planned dive angle, enter chart with depression from flight path in mils, proceed up to release altitude AGL, then left to preplanned rollout altitude AGL, then down to read depression from flight path in mils. (This is the number of mils that subtend the aim-off distance.)

SAMPLE PROBLEM

Given:

Configuration — 2 MK-82 GP bombs

Gross weight over target — 16,000 lb

Dive angle — 30 degrees

Release altitude (AGL) — 2500 ft

Release airspeed — 400 KIAS/440 KTAS

Planned rollout altitude (AGL) — 6500 ft

Planned rollout airspeed — 300 KIAS

Wing flaps — Up

AIM-OFF DISTANCE/INITIAL PIPPER PLACEMENT

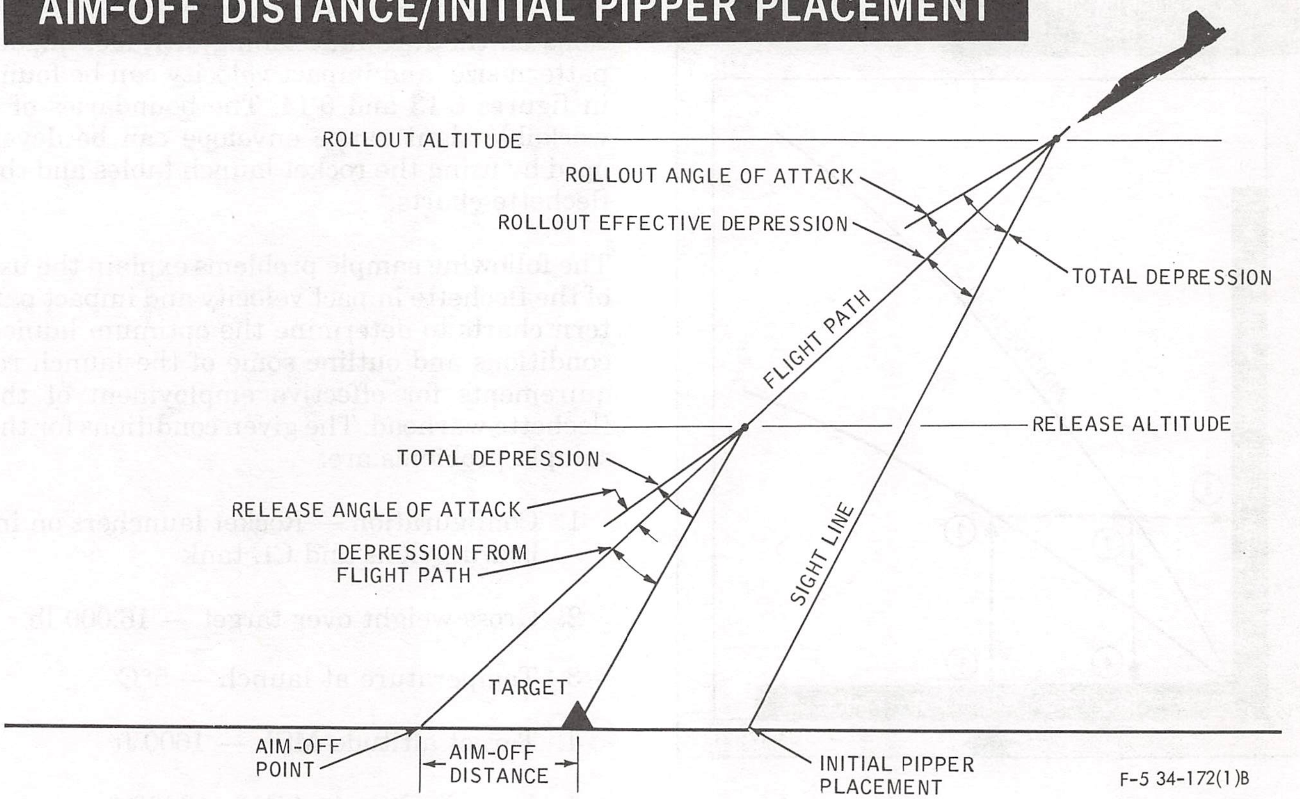


Figure 5-2.

Calculate:

A. Using MK-82 dive bombing tables (table 6-10):

Sight depression from flight path — 112 mils

B. Using angle-of-attack (air-to-ground) chart (figure 6-2):

ZSL angle-of-attack at rollout — 41 mils

ZSL angle-of-attack at release — 13 mils

C. Total depressed sight setting:

Sight depression from flight path + ZSL angle-of-attack at release.

112 mils + 13 mils = 125 mils

D. Enter Aim-Off Distance (30-degree Dive) chart (figure 6-12, sheet 4):

① Depression from flight path at release — 112 mils

② Release altitude (AGL) — 2500 ft

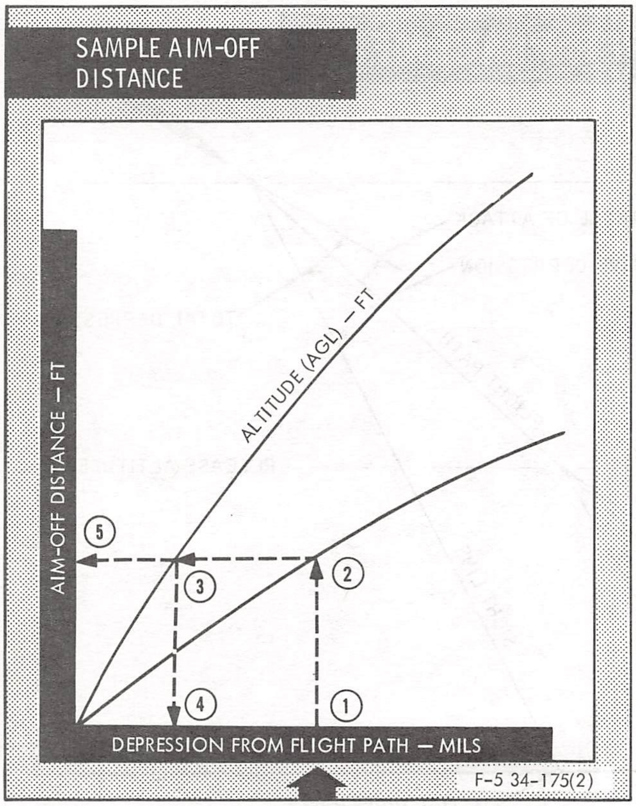
③ Rollout altitude (AGL) — 6500 ft

④ Depression from flight path at rollout — 38 mils

E. Effective depression at rollout:

Total depressed sight setting — ZSL angle-of-attack at rollout

125 mils - 41 mils = 84 mils



F. Initial pipper placement (distance at 6 o'clock from the target the pipper should be at rollout, provided rollout conditions are met):

Effective depression at rollout — depression from flight path

84 mils - 38 mils = 46 mils

⑤ Aim off distance = 940 ft

2.75-INCH FFAR WITH WDU-4A/A FLECHETTE WARHEAD

Effective employment of the flechette warhead requires the slant range between the launch aircraft and target to be within certain limits. The slant range must be sufficient to allow ample time for the flechette fuze to function and eject its payload. The fuze functions when the rocket decelerates to approximately 11.0 g's. The launch altitude must be low enough to ensure the flechettes are still traveling at a lethal velocity upon impact. The mission should be preplanned and accomplished accordingly. The effect of deviation from the preplanned conditions on the fuze functioning altitude, impact pattern size, and impact velocity can be found in figures 6-13 and 6-14. The boundaries of a workable slant range envelope can be developed by using the rocket launch tables and the flechette charts.

The following sample problems explain the use of the flechette impact velocity and impact pattern charts to determine the optimum launch conditions and outline some of the launch requirements for effective employment of the flechette warhead. The given conditions for the sample problems are:

1. Configuration — Rocket launchers on inboard pylons and CL tank
2. Gross weight over target — 16,000 lb
3. Temperature at launch — 5°C
4. Target altitude MSL — 1600 ft
5. Launch altitude AGL — 2400 ft
6. Launch airspeed — 460 KIAS
7. Launch airspeed — 480 KTAS
8. Wind velocity — 10 kt at 90 degrees
9. Dive angle — 30 degrees

FLECHETTE WARHEAD ROCKET LAUNCH TABLES

The rocket launch tables presented in Section VI provide data which considers both rocket and flechette.

From rocket launch tables (table 6-35):

1. Time of flight — 3.35 sec
2. Sight setting — 28 mils
3. Slant range — 4600 ft
4. Horizontal range — 3925 ft
5. Upwind aimpoint — 60 ft at 90 degrees

FLECHETTE IMPACT VELOCITY CHART

The flechette impact velocity charts (figure 6-13, sheets 1 thru 4) can be used to establish the dive angles, launch speeds, and launch altitudes that produce the desired impact velocity. The charts can also be used to determine the impact velocity for a given launch true airspeed, launch altitude, and dive angle.

Use

Enter the chart with launch slant range in feet, proceed up to launch true airspeed, then left to obtain the flechette impact velocity in feet/second.

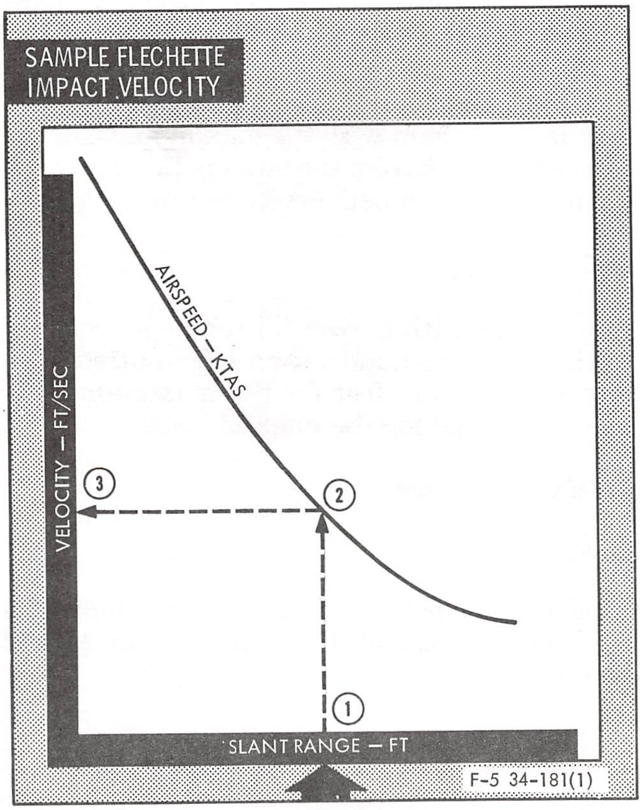
Sample Problem

Given:

Dive angle — 30 degrees

Launch airspeed — 480 KTAS

Launch slant range — 4575 ft



Calculate:

Enter the flechette impact velocity chart (figure 6-13, sheet 2):

① Launch slant range — 4575 ft

② Launch airspeed — 480 KTAS

③ Flechette impact velocity — 620 ft/sec

FLECHETTE IMPACT PATTERN CHART

The flechette impact pattern chart (figure 6-14) is used to obtain the following data for various dive angles and launch true airspeeds:

1. Warhead function altitude.

2. The major axis of the impact pattern produced by one 2.75-inch FFAR flechette warhead. (The major axis is along the aircraft flight path.)

3. The minor axis of the impact pattern.

4. The area in square feet of the impact pattern associated with the size of the ellipse.

5. The number of flechettes impacting within each square foot of the area above. This value gives flechette density for one, two, or four rocket launchers.

Use

Enter chart with launch altitude AGL, proceed down to dive angle and airspeed in KTAS, then right and read warhead function altitude in feet. Continue right to dive angle, then down and read semimajor axis in feet. Continue down to dive angle, then left and read semiminor axis in feet. Continue left to dive angle then vertically in both directions to obtain impact area in square feet and number of flechettes impacting within each square foot.

Sample Problem

Given:

Launchers — 2 LAU-60/A

Dive angle — 30 degrees

Launch airspeed — 480 KTAS

Launch altitude — 2400 ft

Calculate:

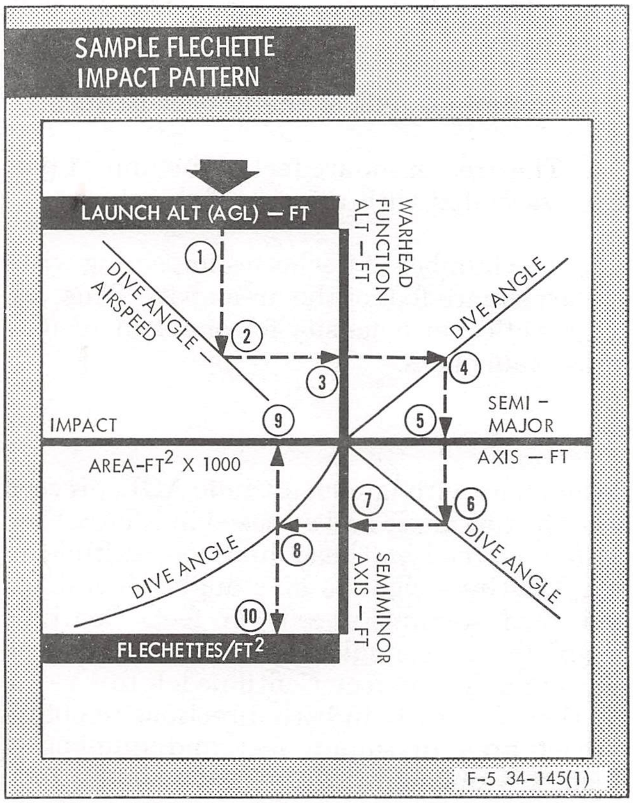
Enter the flechette impact pattern chart (figure 6-14):

① Launch altitude — 2400 ft

② Dive angle/Launch airspeed — 30 degrees/480 KTAS

③ Warhead function altitude — 920 ft

④ Dive angle — 30 degrees



⑤ Semimajor axis — 98 ft

98 ft x 2 = major axis

= 196 ft

⑥ Dive angle — 30 degrees

⑦ Semiminor axis — 55 ft

55 ft x 2 = minor axis

= 110 ft

⑧ Dive angle — 30 degrees

⑨ Impact area — 17,000 ft^2

⑩ Density — 1.25 flechettes/ft^2

MAXIMUM FRAGMENT ENVELOPE

The Maximum Fragment Envelope charts (figure 6-15, sheets 1 and 2), show the fragment position relative to the MK-82, MK-82 Snakeye I, MK-36, MK-83, MK-84 and M117 burst point as a function of time and horizontal range. The envelope is used to determine the safe release interval between aircraft during multiple aircraft attacks. The chart is based on the assumption that the most hazardous fragment (the heaviest fragment with the maximum velocity) can be projected from the burst point at any angle for any bomb delivery condition.

USE

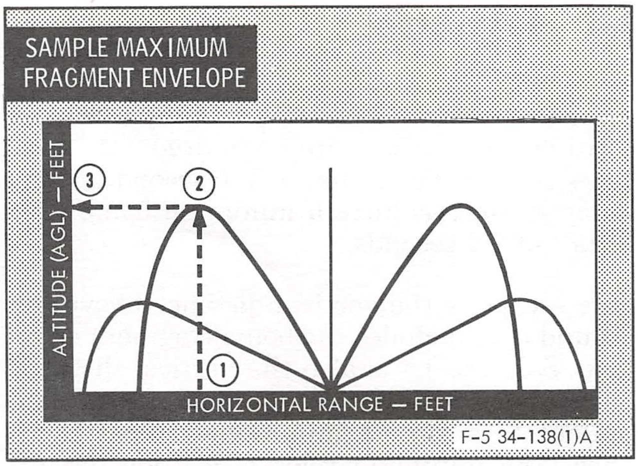
Enter chart with horizontal range, proceed up to the time in seconds, then left and read the altitude (AGL) in feet for the maximum fragment envelope for the elapsed time.

SAMPLE PROBLEM

Given:

Find highest point of fragment envelope at a horizontal range of 1500 feet for an MK-82 bomb.

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Calculate:

① Enter MK-82GP chart at 1500 feet horizontal range

② Time after burst — 7.5 seconds

③ Altitude of envelope — 2050 ft

AIM-9B/B-1 LAUNCH ENVELOPES

Launch envelopes are formed as a function of missile performance, altitude, closing velocity (delta mach) between the launch aircraft and the target, and are affected by target maneuvering. The envelopes in section VI (figure 6-16 sheets 1 thru 7) assume the attacker's velocity vector is pointed at the target at launch. If the attack is near the edge of the envelope with high aircraft angle of attack at launch, the missile may not have a chance because launch is in lag pursuit. The lethal envelope changes greatly as the target maneuvers. A missile launch against a 3 g target would most probably be out of the envelope if the target increases to 6 g after launch. Probability of kill (P_K) is not constant throughout the envelope. In every case, P_K increases toward the heart of the envelope.

USE

Enter the appropriate launch envelope for the altitude and launch mach-target mach relationship. From the launch aircraft's angle off the target's tail, project a line to the center of the envelope (target flight path arrows). The intersections of projected line and applicable envelopes determine the maximum and minimum launch range.

SAMPLE PROBLEM

Given:

Launch aircraft/target altitude — 10,000 ft

Target Mach — 0.8/3g constant turning

Launch Mach — 0.95

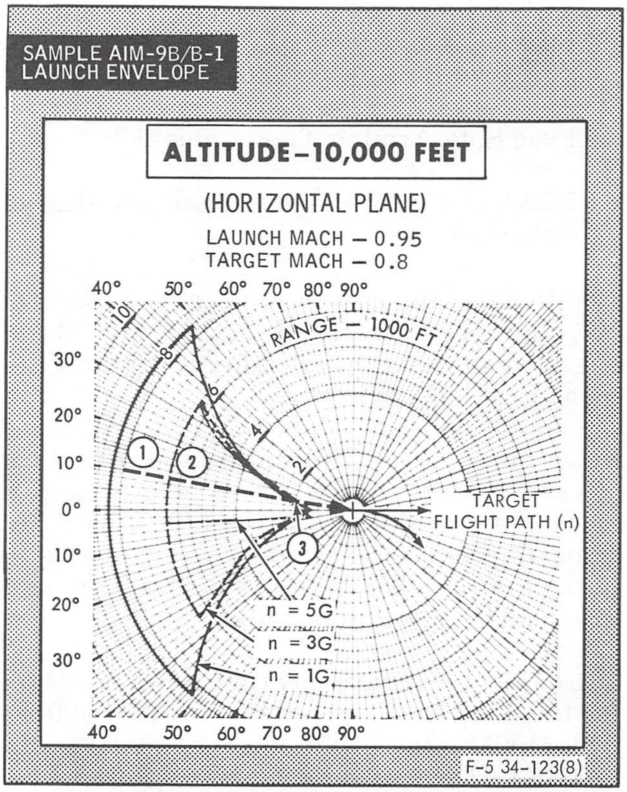
Launch aircraft position — 10 degrees left of target, 8000 feet behind

Calculate:

① Enter applicable launch envelope (figure 6-16, sheet 2). Project the line from launch aircraft to target

② Maximum launch range — 6400 ft

③ Minimum launch range — 2000 ft



DESCRIPTION OF TABLES

FUZE ARMING AND SAFE ESCAPE

WARNING

The lower release conditions in the ballistic tables in Section VI must be checked with the Fuze Arming and Safe Escape tables to ensure a safe delivery.

Fuze Arming and Safe Escape information for bombs and rockets which can be carried are contained in the following tables and charts:

Fuze Arming — Level Release (table 6-1)

Fuze Arming — Dive Release (table 6-2)

Safe Escape — Level Release (table 6-3)

Safe Escape — Dive Release (table 6-4)

Safe Escape — Ripple Release (table 6-5)

Fuze Arming and Safe Escape — MK-82 (Snakeye I) (table 6-6)

Fuze Safe Arming Time (table 6-7)

2.75-Inch FFAR Minimum Launch Altitude (table 6-8)

Additional safe escape information for the MK-82, MK-82 Snakeye I, MK-83, MK-84 and M117 bombs are contained in Maximum Fragment Envelope charts.

Fuze arming is the vertical distance below the aircraft that the bomb travels before the fuze arms. For the M904 nose and M905 tail fuzes, 4- and 6-second arming delay settings are listed in the tables. If bomb impact occurs before the fuze arms, the bomb is a dud.

The current arming delay time tolerance listed for the delay setting is ±20% for the M904E1 and M905, and ±10% for the M904E2 and M904E3. The delay setting plus the positive tolerance is used to determine minimum release altitude or vertical drop required for these fuzes to arm. For example, a 6-second arming delay setting requires a minimum bomb time of fall of 7.2 seconds.

Safe escape is the vertical distance above the ground that includes the bomb fragment envelope. Safe escape is also the vertical distance above the ground where the pilot must initiate pullout to ensure a minimum ground clearance. The minimum release altitude for aircraft ground clearance is based on a symmetrical 4.0 g pullout and assumes that 4.0 g's are obtained in 2 seconds after the last bomb is released.

DETERMINATION OF MINIMUM RELEASE ALTITUDE

The safe vertical drop to fuze arming, minimum recovery altitude, and bomb fragmentation envelope clearance, must all be considered in the determination of the minimum acceptable MK-82, MK-83, MK-84 and M117 bomb release conditions. The altitude or vertical drop required for each of these parameters should be determined from the data listed in the Fuze Arming, and Safe Escape tables (tables 6-1 thru 6-7), and Maximum Fragment Envelope charts. The greatest value would then become the minimum release altitude for the fuze, dive angle, and airspeed condition being considered. For example, assume the MK-82 bomb with the M904 nose fuze with a 6.0-second arming delay setting is released from a 400 KTAS, 30-degree dive. For this release condition, the M904 nose fuze would require a vertical drop of 3280 feet (obtained from table 6-2) for the fuze to arm. The minimum release altitude for a 500-foot ground clearance during a recovery is 1490 feet, obtained by adding 500-feet ground clearance to the 990-foot altitude lost during pullout (obtained from table 6-4). In this case, the minimum release altitude is governed by the time required for the M904 nose fuze to arm. The minimum acceptable release altitudes for the compatible fuzes are determined in a similar manner.

SIGHT SETTING, SLANT RANGE, HORIZONTAL RANGE

To obtain the sight setting continue across the table from KCAS, to the sight setting value that corresponds to the aircraft gross weight over target. Aircraft gross weights are listed above sight setting, slant range, and horizontal range. Interpolate between 440 KCAS and 480 KCAS settings to find the sight setting of 32 mils. Slant range and horizontal range are determined in a similar manner.

WIND CORRECTION FACTORS

To obtain the wind correction factors continue across the table from KCAS to obtain a wind correction factor of 6 ft/kt and 0.7 mil/kt.

MISSION PLANNING FORM

Sample

MISSION CONDITIONS — AIRCRAFT MODEL: F-5E

	Item			
1.	Delivery Mode			ROCKET LAUNCH
2.	Stores: Tip AIM-9J	Outbd LAU-3/A(WDU-4A/A)	Inbd LAU-3/A(WDU-4A/A)	CL TANK

	3. Type of Fuzing (Impact) (Delay) (VT)	Nose	Tail
a.	Type		
b.	Action		
c.	Functioning Delay		
d.	Arming Delay (____% Tolerance)		

	4. External Weight Index:	Pylons (lb)		Stores (lb)	Total Weight
a.	Tip			340	340 lb
b.	Outbd	256	+	934	1190 lb
c.	Inbd	243	+	934	1177 lb
d.	CL (Tank empty, if installed)	170	+	216	386 lb
e.	Total Weight				3093 lb

	Item	Value
5.	Aircraft Operating Weight	10313 lb
6.	20MM Ammo Weight	394 lb
7.	Fuel Remaining over Target	2200 lb
8.	Aircraft Gross Weight over Target (Add: #4 e, #5, #6, and #7)	16000 lb
9.	Target Elevation MSL	1600 ft
10.	Approach Course to Target	310 ° True
11.	Minimum Recovery Altitude AGL (Check: #19 minus #20) (Established by Major Command)	500 ft

RELEASE CONDITIONS

	Item	Value
12.	Safe Escape and Fuze Arming:	
a.	Minimum Release Altitude AGL for Frag Clearance From Safe Escape Table (Ensure #18 or #31 is greater than #12a)	— ft
b.	Minimum Release Altitude AGL for Fuze Arming From Fuze Arming Table (Ensure #18 or #31 is greater than #12b)	— ft
c.	Check Fuze Arm Delay Setting plus Fuze Tolerance is LESS than Bomb Time of Flight	(—)
13.	Forecast Temperature at Release Altitude MSL (From #19)	5 °C
14.	Forecast Altimeter Setting over Target	29.92 In. Hg
15.	Release KIAS	460 kt
16.	Release KTAS	480 kt
17.	Dive Angle	30 deg
18.	Release Altitude AGL (Must be greater than #12)	2400 ft
19.	Release Altitude MSL (Add: #9 and #18)	4000 ft
20.	Altitude Loss During Pullout (From Dive Recovery Chart)	1350 ft
21.	Altimeter Lag (From Altimeter Lag Chart)	82 ft
22.	Altimeter Correction (From Altimeter Correction Chart) (SHARKNOSE RADOME)	+14 ft
23.	Indicated Release Altitude MSL (Add: #19, #21, and #22)	4096 ft
24.	Angle of Attack (ZSL) (From Angle of Attack Chart) (Flaps — / —)	+7 mils

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Figure 5-6. (Sheet 1)

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SIGHT SETTING, SLANT RANGE, HORIZONTAL RANGE

To obtain the sight setting continue across the table from KCAS, to the sight setting value that corresponds to the aircraft gross weight over target. Aircraft gross weights are listed above sight setting, slant range, and horizontal range. Interpolate between 440 KCAS and 480 KCAS settings to find the sight setting of 32 mils. Slant range and horizontal range are determined in a similar manner.

WIND CORRECTION FACTORS

To obtain the wind correction factors continue across the table from KCAS to obtain a wind correction factor of 6 ft/kt and 0.7 mil/kt.

MISSION PLANNING FORM

Sample

MISSION CONDITIONS

AIRCRAFT MODEL F-5E

1. Delivery Mode .... ROCKET LAUNCH
2. Stores: Tip AIM-9J Outbd LAU-3/A(WDU-4A/A) Inbd LAU-3/A(WDU-4A/A) CL TANK
3. Type of Fuzing (Impact) (Delay) (VT) — Nose — Tail
   a. Type .... ____ ____
   b. Action .... ____ ____
   c. Functioning Delay .... ____ ____
   d. Arming Delay (____% Tolerance) .... ____ ____
4. External Weight Index:

	Pylons (lb)		Stores (lb)	Total Weight	
a. Tip			340	340	lb
b. Outbd	256	+	934	1190	lb
c. Inbd	243	+	934	1177	lb
d. CL (Tank empty, if installed)	170	+	216	386	lb
e. Total Weight				3093	lb

5. Aircraft Operating Weight .... 10313 lb
6. 20MM Ammo Weight .... 394 lb
7. Fuel Remaining over Target .... 2200 lb
8. Aircraft Gross Weight over Target (Add: #4 e, #5, #6, and #7) .... 16000 lb
9. Target Elevation MSL .... 1600 ft
10. Approach Course to Target .... 310 ° True
11. Minimum Recovery Altitude AGL (Check: #19 minus #20) .... 500 ft
    (Established by Major Command)

RELEASE CONDITIONS

12. Safe Escape and Fuze Arming:
    a. Minimum Release Altitude AGL for Frag Clearance .... — ft
       From Safe Escape Table (Ensure #18 or #31 is greater than #12a)
    b. Minimum Release Altitude AGL for Fuze Arming .... — ft
       From Fuze Arming Table (Ensure #18 or #31 is greater than #12b)
    c. Check Fuze Arm Delay Setting plus Fuze Tolerance is LESS than Bomb Time of Flight .... (—)
13. Forecast Temperature at Release Altitude MSL (From #19) .... 5 °C
14. Forecast Altimeter Setting over Target .... 29.92 In. Hg
15. Release KIAS .... 460 kt
16. Release KTAS .... 480 kt
17. Dive Angle .... 30 deg
18. Release Altitude AGL (Must be greater than #12) .... 2400 ft
19. Release Altitude MSL (Add: #9 and #18) .... 4000 ft
20. Altitude Loss During Pullout (From Dive Recovery Chart) .... 1350 ft
21. Altimeter Lag (From Altimeter Lag Chart) .... 82 ft
22. Altimeter Correction (From Altimeter Correction Chart) .... +5 ft
23. Indicated Release Altitude MSL (Add: #19, #21, and #22) .... 4089 ft
24. Angle of Attack (ZSL) (From Angle of Attack Chart) (Flaps —/—) .... +7 mils

Figure 5-6. (Sheet 1)

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MISSION PLANNING FORM (CONT)

Sample

WIND VALUES

25.	Forecast Wind	090	° True	10	kt
26.	Relative Wind (From Relative Wind Vector Chart)	140	° True	10	kt
27.	Rangewind Component (~~Head~~) (Tail)			8	kt
28.	Crosswind Component (~~Left~~) (Right)			6	kt

DIVE AND LEVEL BOMBING CONDITIONS (SINGLE) (RIPPLE)

29.	Bomb Time of Flight (Last Bomb for Ripple Release) (From Bomb Tables)		sec
30.	Bomb Range (Horizontal) (From Bomb Tables)		ft
31.	(Ripple Rel) Release Altitude of Last Bomb (From Bomb Tables) (Must be greater than #12)		ft
32.	(Ripple Rel) Bomb Pattern Length (From Bomb Tables)		ft
33.	(Ripple Rel) Range from First Bomb to Center of Pattern (From Bomb Tables or #30 + One Half #32)		ft
34.	Sight Depression from Flight Path (From Bomb Tables)		mils
35.	Headwind Correction Factor (+) (From Bomb Tables)		mils/kt
36.	Tailwind Correction Factor (-) (From Bomb Tables)		mils/kt
37.	Crosswind Correction Factor (From Bomb Tables)		ft/kt
38.	Rangewind Correction to Sight Depression (#27 X #35, or X #36)		mils
39.	Crosswind Correction (#28 X #37)		ft
40.	Sight Depression Setting (Add: #24, #34, and #38)		mils
41.	Pylon Offset Correction (Left) (Right) Outbd Pylon ..... 10.3 ft Inbd Pylon ..... 7.8 ft		ft
42.	Offset Aimpoint (Left) (Right) (#39 ± #41)		ft

GUN/ROCKET FIRING CONDITIONS

29.	Rocket/Projectile Time of Flight	3.68	sec
30.	Firing Slant Range	4575	ft
31.	Firing Horizontal Range	3895	ft
32.	Sight Depression Setting (No Wind)	32	mils
33.	Rangewind Correction Factor	.7	mils/kt
34.	Crosswind Correction Factor	6	ft/kt
35.	Rangewind Correction to Sight Depression Angle (+ head) (- tail) (#33 X #27)	-5.6	mils
36.	Sight Depression Setting (#32 + #35)	26.4	mils
37.	Crosswind correction (#34 X #28)	36	ft

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Figure 5-6. (Sheet 2)

PLANNING CHARTS AND TABLES

SECTION VI

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TABLE OF CONTENTS

CHARTS

TABLES

TABLE OF CONTENTS (Continued)

BOMBING TABLES — LEVEL AND DIVE RELEASE

FLARE RELEASE TABLES

GUN TABLES

ROCKET TABLES

MISSION PLANNING FORM

MISSION CONDITIONS

AIRCRAFT MODEL ______

1. Delivery Mode ...... ______
2. Stores: Tip ______ Outbd ______ Inbd ______ CL ______
3. Type of Fuzing (Impact) (Delay) (VT) — Nose / Tail
   a. Type ...... ______ ______
   b. Action ...... ______ ______
   c. Functioning Delay ...... ______ ______
   d. Arming Delay (____% Tolerance) ...... ______ ______
4. External Weight Index: — Pylons (lb) / Stores (lb) / Total Weight
   a. Tip ...... ______ ______ lb
   b. Outbd ...... ______ + ______ ______ lb
   c. Inbd ...... ______ + ______ ______ lb
   d. CL (Tank empty, if installed) ...... ______ + ______ ______ lb
   e. Total Weight ...... ______ lb
5. Aircraft Operating Weight ...... ______ lb
6. 20MM Ammo Weight ...... ______ lb
7. Fuel Remaining over Target ...... ______ lb
8. Aircraft Gross Weight over Target (Add: #4 e, #5, #6, and #7) ...... [ ] lb
9. Target Elevation MSL ...... ______ ft
10. Approach Course to Target ...... ______ ° True
11. Minimum Recovery Altitude AGL (Check: #19 minus #20) ...... ______ ft
    (Established by Major Command)

RELEASE CONDITIONS

12. Safe Escape and Fuze Arming:
    a. Minimum Release Altitude AGL for Frag Clearance ...... ______ ft
       From Safe Escape Table (Ensure #18 or #31 is greater than #12a)
    b. Minimum Release Altitude AGL for Fuze Arming ...... ______ ft
       From Fuze Arming Table (Ensure #18 or #31 is greater than #12b)
    c. Check Fuze Arm Delay Setting plus Fuze Tolerance is LESS than Bomb Time of Flight ...... ( )
13. Forecast Temperature at Release Altitude MSL (From #19) ...... ______ °C
14. Forecast Altimeter Setting over Target ...... ______ In. Hg
15. Release KIAS ...... ______ kt
16. Release KTAS ...... [ ] kt
17. Dive Angle ...... ______ deg
18. Release Altitude AGL (Must be greater than #12) ...... ______ ft
19. Release Altitude MSL (Add: #9 and #18) ...... ______ ft
20. Altitude Loss During Pullout (From Dive Recovery Chart) ...... ______ ft
21. Altimeter Lag (From Altimeter Lag Chart) ...... ______ ft
22. Altimeter Correction (From Altimeter Correction Chart) ...... ______ ft
23. Indicated Release Altitude MSL (Add: #19, #21, and #22) ...... [ ] ft
24. Angle of Attack (ZSL) (From Angle of Attack Chart) (Flaps ____/____) ...... ______ mils

F-5E 34-111 (1) A

Figure 6-1. (Sheet 1)

MISSION PLANNING FORM (CONT)

WIND VALUES

25. Forecast Wind .... ________° True ________ kt
26. Relative Wind (From Relative Wind Vector Chart) .... ________° True ________ kt
27. Rangewind Component (Head) (Tail) .... ________ kt
28. Crosswind Component (Left) (Right) .... ________ kt

DIVE AND LEVEL BOMBING CONDITIONS (SINGLE) (RIPPLE)

29. Bomb Time of Flight (Last Bomb for Ripple Release) (From Bomb Tables) .... ________ sec
30. Bomb Range (Horizontal) (From Bomb Tables) .... ________ ft
31. (Ripple Rel) Release Altitude of Last Bomb............................ ________ ft
    (From Bomb Tables) (Must be greater than #12)
32. (Ripple Rel) Bomb Pattern Length (From Bomb Tables)........................ ________ ft
33. (Ripple Rel) Range from First Bomb to Center of Pattern (From Bomb Tables
    or #30 + One Half #32 .... ________ ft
34. Sight Depression from Flight Path (From Bomb Tables) .... ________ mils
35. Headwind Correction Factor (+) (From Bomb Tables) .... ________ mils/kt
36. Tailwind Correction Factor (-) (From Bomb Tables)......................... ________ mils/kt
37. Crosswind Correction Factor (From Bomb Tables)............................ ________ ft/kt
38. Rangewind Correction to Sight Depression (#27 X #35, or X #36) .... ________ mils
39. Crosswind Correction (#28 X #37) .... ________ ft
40. Sight Depression Setting (Add: #24, #34, and #38)............................ [________ mils]
41. Pylon Offset Correction (Left) (Right) .... ________ ft
    Outbd Pylon ..... 10.3 ft Inbd Pylon ..... 7.8 ft
42. Offset Aimpoint (Left) (Right) (#39 ± #41) .... [________ ft]

GUN/ROCKET FIRING CONDITIONS

29. Rocket/Projectile Time of Flight .... ________ sec
30. Firing Slant Range .... ________ ft
31. Firing Horizontal Range .... ________ ft
32. Sight Depression Setting (No Wind) .... ________ mils
33. Rangewind Correction Factor .... ________ mils/kt
34. Crosswind Correction Factor .... ________ ft/kt
35. Rangewind Correction to Sight Depression Angle .... ________ mils
    (+ head) (- tail) (#33 X #27)
36. Sight Depression Setting (#32 + #35) .... [________ mils]
37. Crosswind Correction (#34 X # 28) .... [________ ft]

F-5E 34-111(2) B

Figure 6-1. (Sheet 2)

ANGLE OF ATTACK

AIR-TO-GROUND

MAJOR CHANGE

Note

- FRL ANGLE OF ATTACK = A+B+C (ADD C ONLY WHEN FLAPS ARE USED).
- ZSL ANGLE OF ATTACK = FRL-35 MILS.
- STATIONS WITH NO PYLONS OR EMPTY PYLONS HAVE NEGLIGIBLE EFFECT ON ANGLE OF ATTACK.

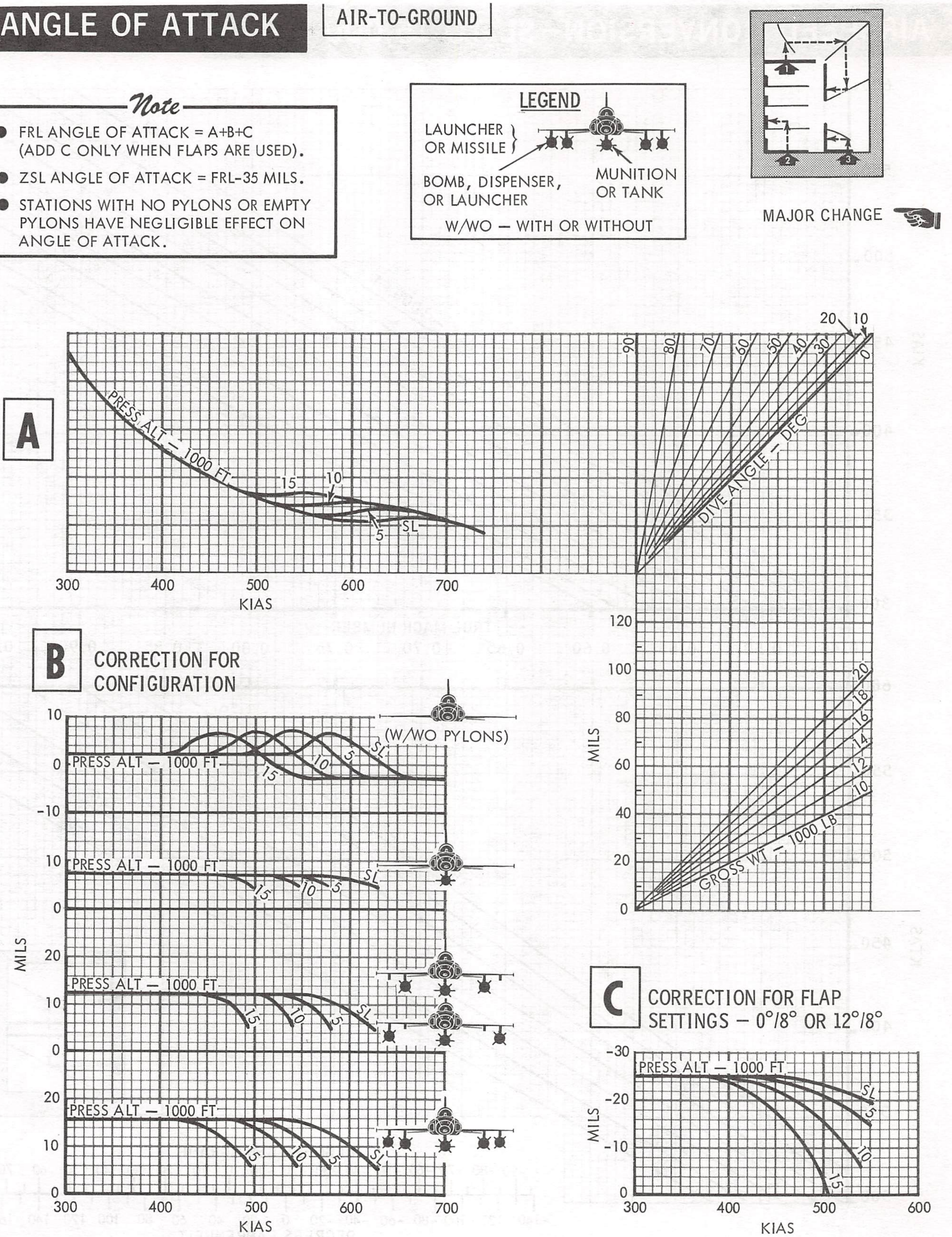


Figure 6-2.

AIRSPEED CONVERSION–SL TO 15,000 FEET

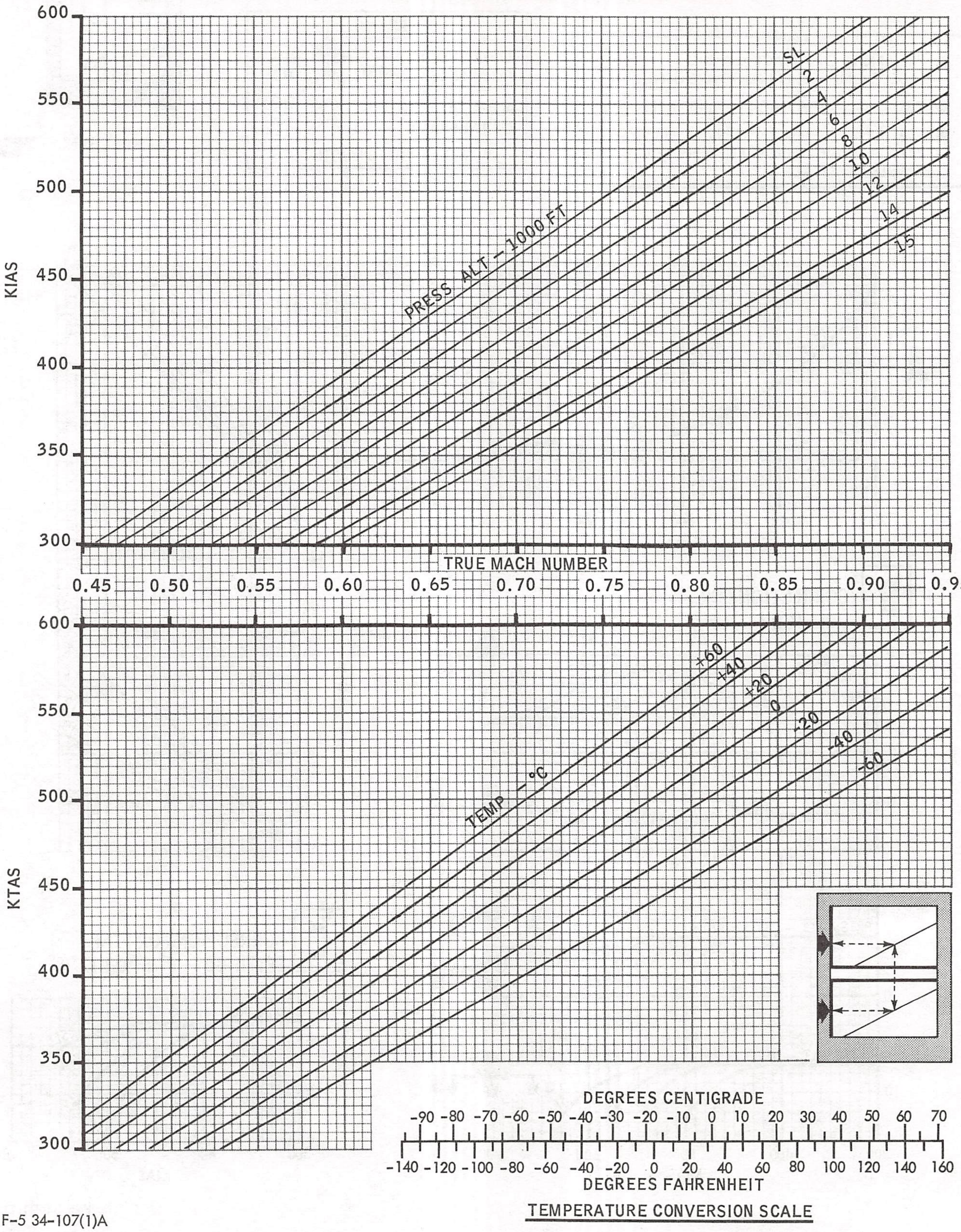


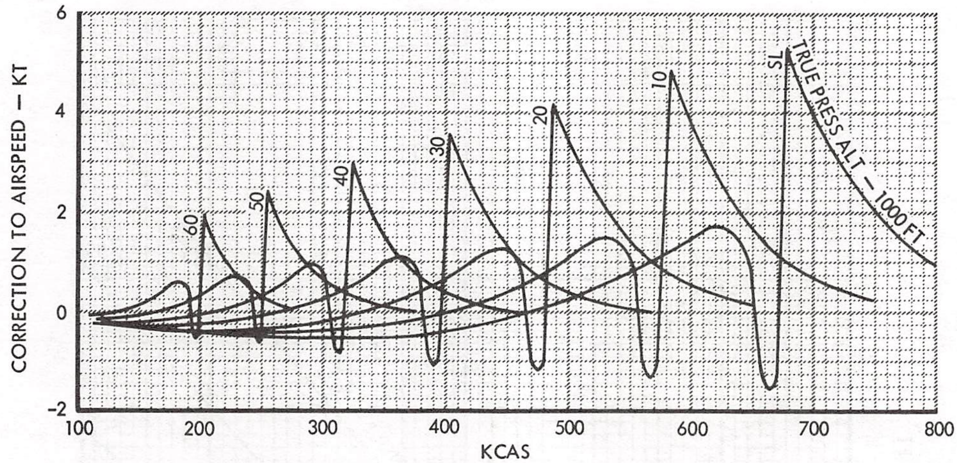
Figure 6-3.

AIRSPEED INSTALLATION ERROR CORRECTION

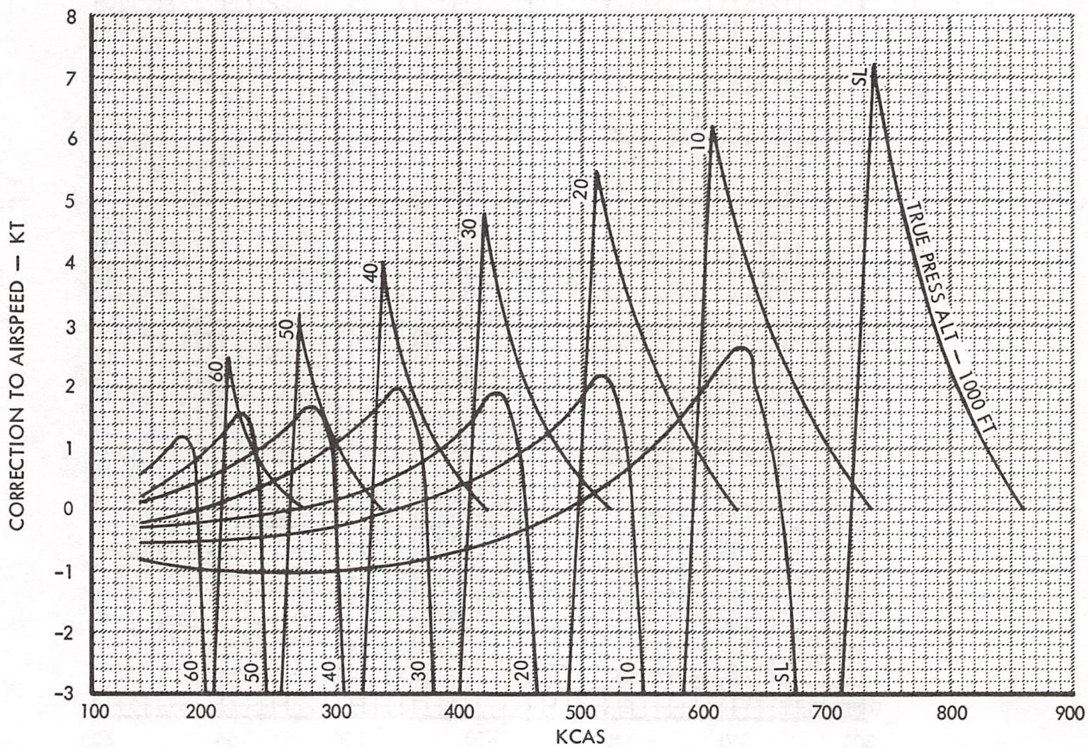
DATA BASIS: **FLIGHT TEST**

> *Note*
> ADD CORRECTION TO OBTAIN KIAS.

AIRCRAFT WITH CONICAL NOSE RADOME



AIRCRAFT WITH SHARK NOSE RADOME

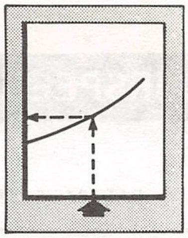


F-5 34-108(3)

Figure 6-4.

DIVE RECOVERY

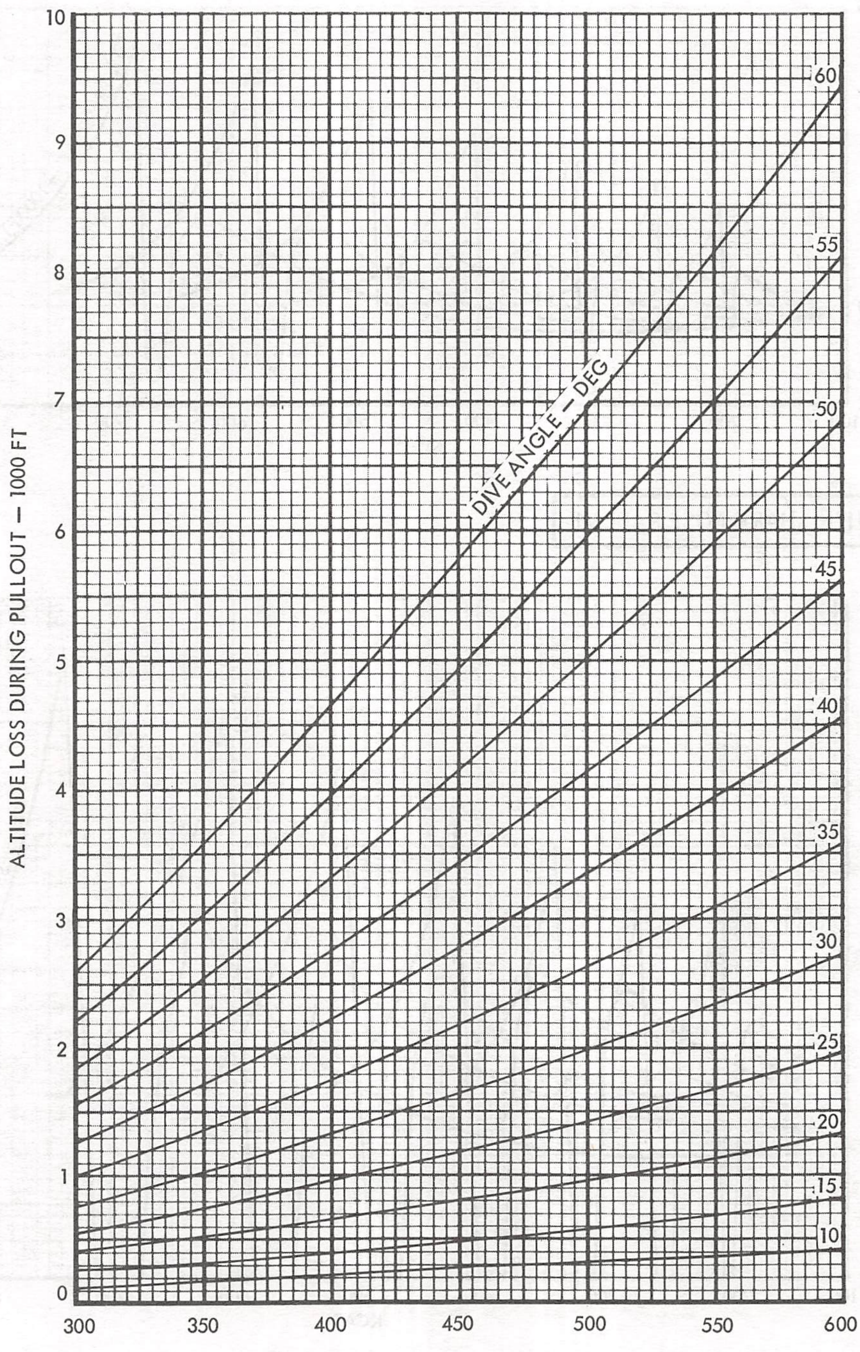
LEVEL PULLOUT (LOW ALTITUDE)



Note

PULLOUT ACCELERATION ATTAINED IN 2.0 SECONDS.

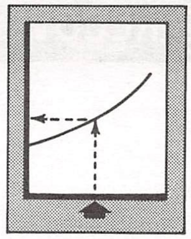
3.0-G PULLOUT



F-5E 34-174 A

Figure 6-5. (Sheet 1)

DIVE RECOVERY

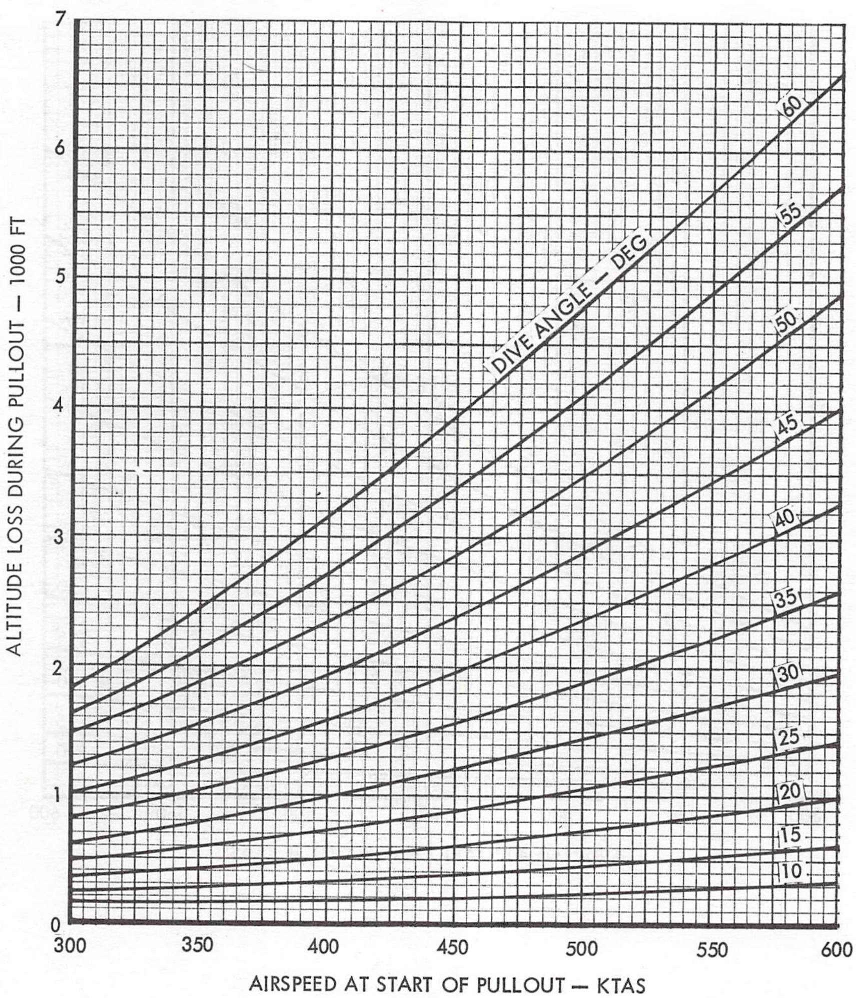


LEVEL PULLOUT – (LOW ALTITUDE)

Note

PULLOUT ACCELERATION ATTAINED IN 2.0 SECONDS.

4.0-G PULLOUT

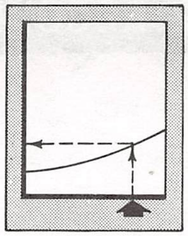


F-5E 34-136

Figure 6-5. (Sheet 2)

DIVE RECOVERY

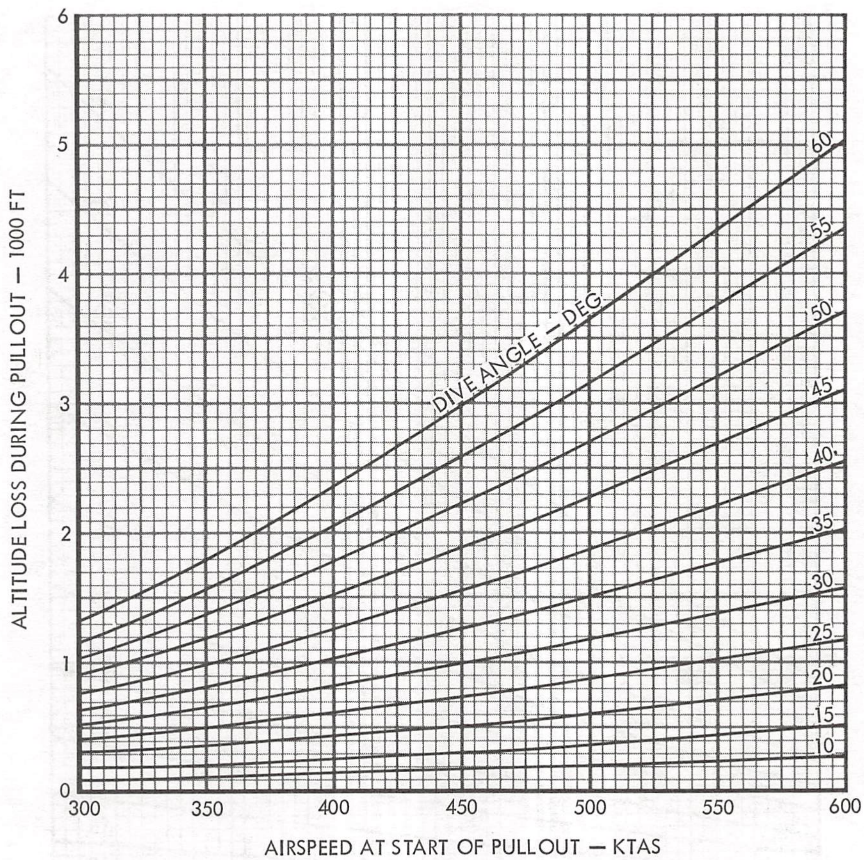
LEVEL PULLOUT – (LOW ALTITUDE)



Note

PULLOUT ACCELERATION ATTAINED IN 2.0 SECONDS.

5.0-G PULLOUT



F-5E 34-173 A

Figure 6-5. (Sheet 3)

DIVE RECOVERY

LEVEL AND BANKED TURN PULLOUT – (LOW ALTITUDE)

ALTITUDE LOSS IN FEET DURING 4.0-G PULLUP RECOVERY

Note

PULLUP ACCELERATION ATTAINED IN 2.0 SECONDS.

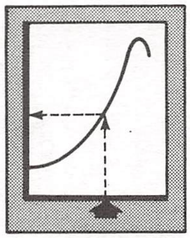
KNOTS TAS	WINGS LEVEL	10° BANK	20° BANK	30° BANK	45° BANK
15° DIVE					
360	280	300	310	330	400
400	320	340	360	390	480
440	380	400	420	450	560
480	430	460	480	520	650
520	490	520	540	590	730
560	550	580	610	660	830
30° DIVE					
360	830	860	900	980	1220
400	990	1030	1080	1180	1480
440	1160	1210	1270	1380	1750
480	1350	1400	1470	1610	2050
520	1540	1610	1690	1850	2370
560	1750	1830	1920	2100	2700
45° DIVE					
360	1630	1690	1760	1920	2420
400	1960	2030	2130	2330	2980
440	2330	2410	2530	2780	3580
480	2720	2810	2960	3250	4220
520	3130	3240	3420	3760	4900
560	3580	3690	3900	4300	5580
60° DIVE					
360	2590	2710	2840	3090	3940
400	3170	3300	3480	3810	4930
440	3790	3940	4160	4580	5980
480	4460	4630	4890	5400	7100
520	5170	5360	5670	6270	8220
560	5870	6060	6400	7040	9130

F-5E 34-110

Figure 6-6.

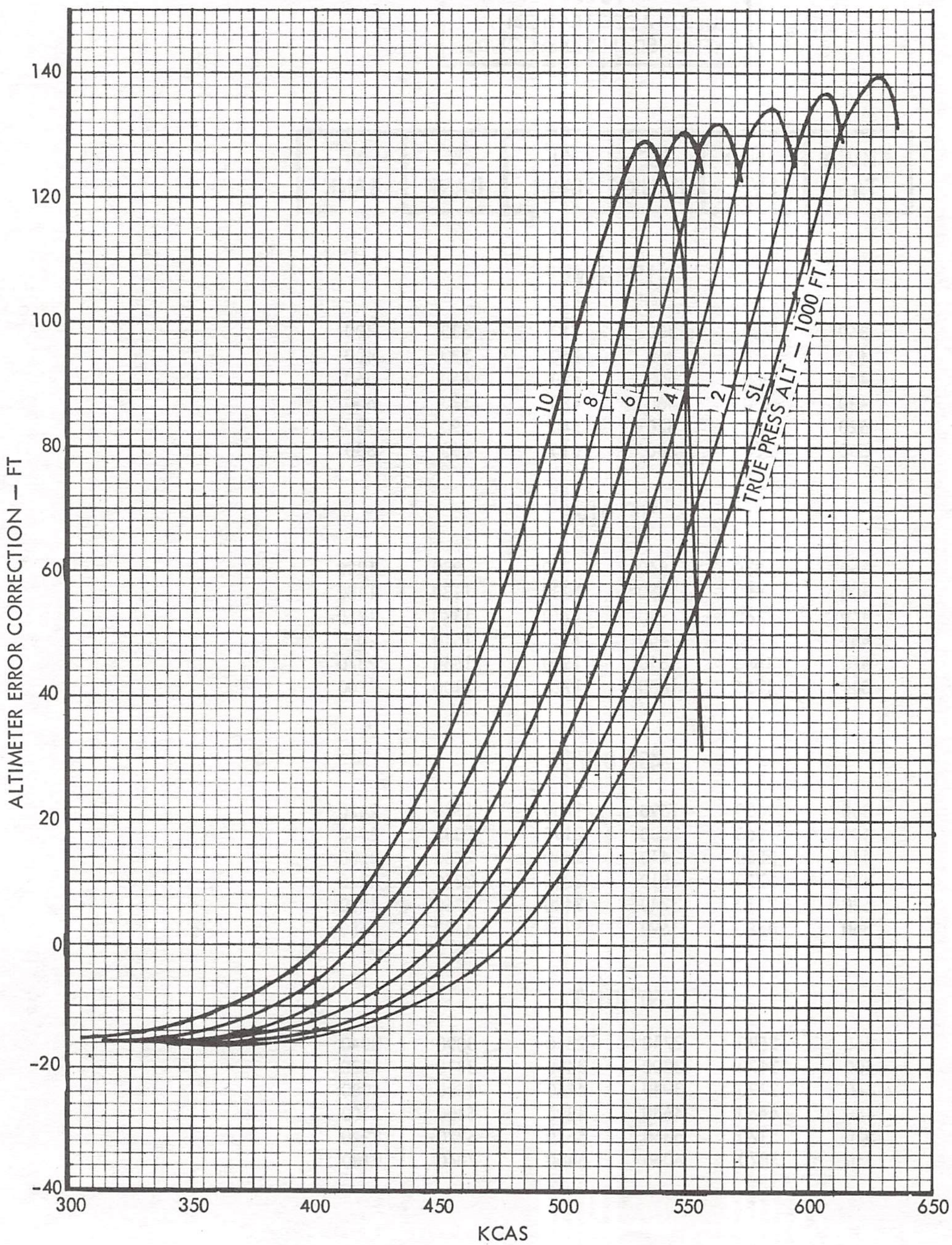
ALTIMETER INSTALLATION ERROR CORRECTION

AIRCRAFT WITH CONICAL NOSE RADOME



Note

- CORRECTION APPLICABLE TO AAU-19/A ALTIMETER IN STBY MODE, AAU-34/A ALTIMETER IN PNEU MODE AND AAU-7A/A ALTIMETER.
- INDICATED PRESSURE ALTITUDE = TRUE PRESSURE ALTITUDE + CORRECTION.

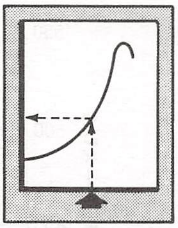


F-5 34-114(1)B

Figure 6-7. (Sheet 1)

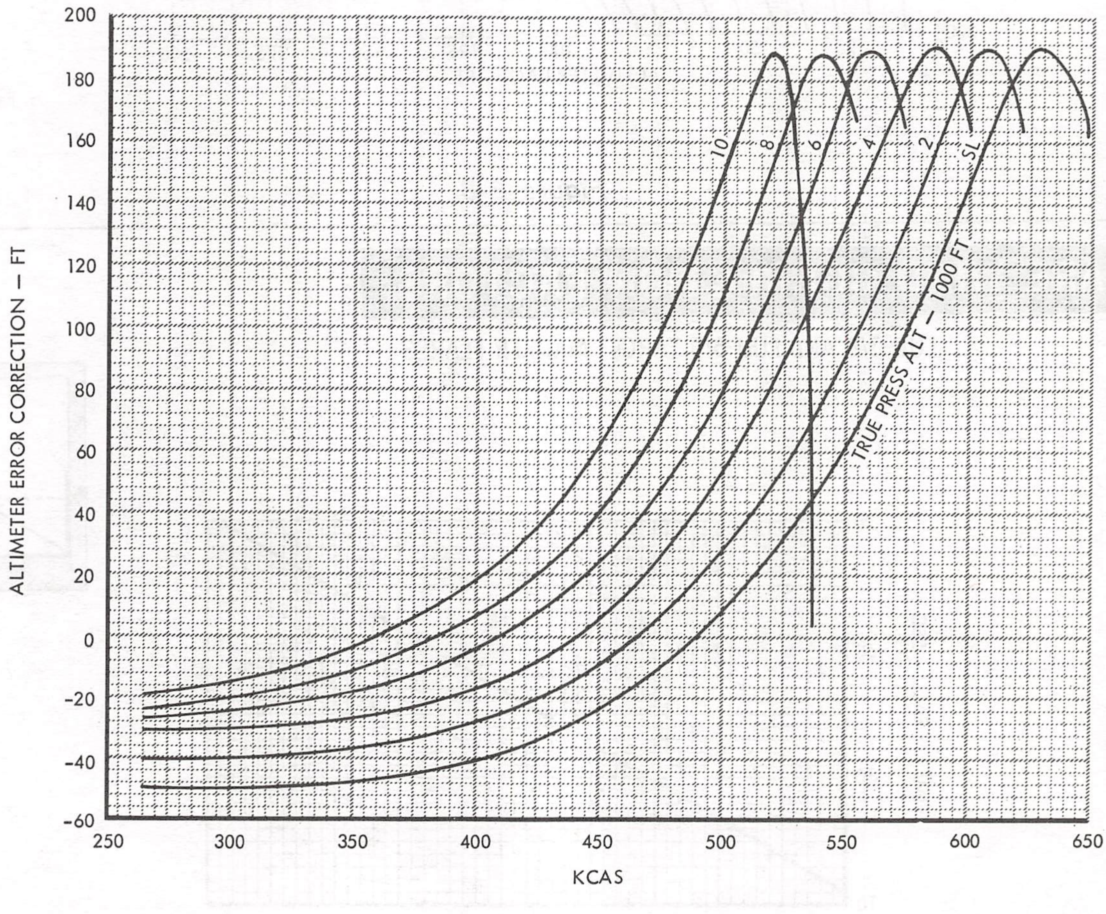
ALTIMETER INSTALLATION ERROR CORRECTION

AIRCRAFT WITH SHARK NOSE RADOME



Note

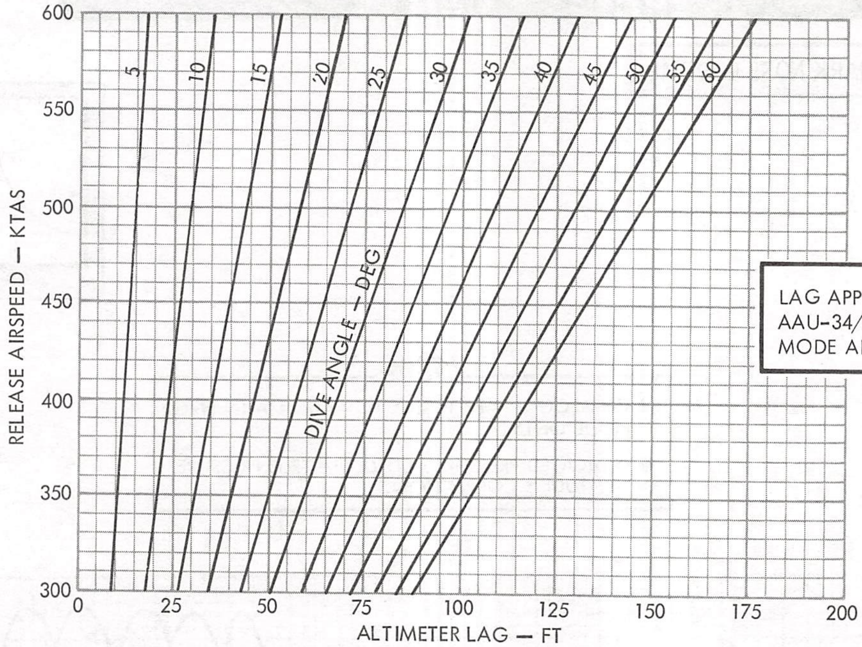
- CORRECTION APPLICABLE TO AAU-34/A IN PNEU MODE ONLY.
- INDICATED PRESSURE ALTITUDE = TRUE PRESSURE ALTITUDE + CORRECTION.

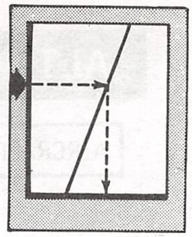


F-5 34-114(3)

Figure 6-7. (Sheet 2)

ALTIMETER LAG CHART





Note

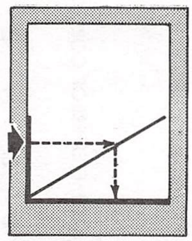
LAG APPLICABLE TO AAU-19/A, AAU-34/A ALTIMETERS IN EITHER MODE AND AAU-7A/A ALTIMETER.

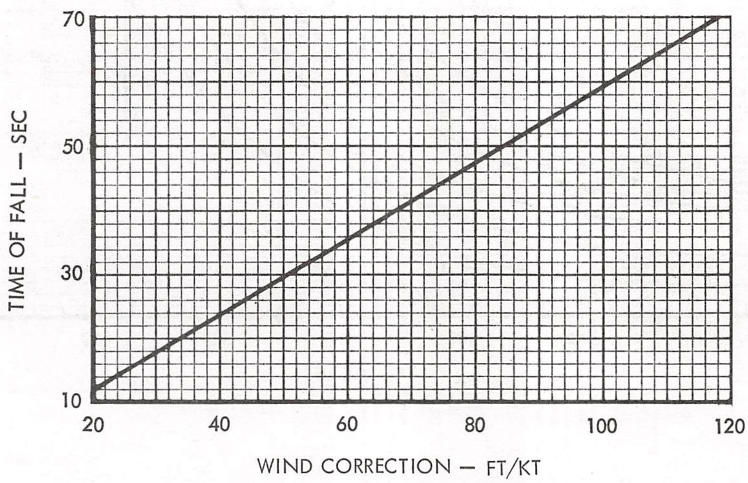
F-5 34-115(1)A

Figure 6-8.

FLARE WIND CORRECTION FACTORS

LUU-1/B AND LUU-5/B TARGET MARKER FLARES

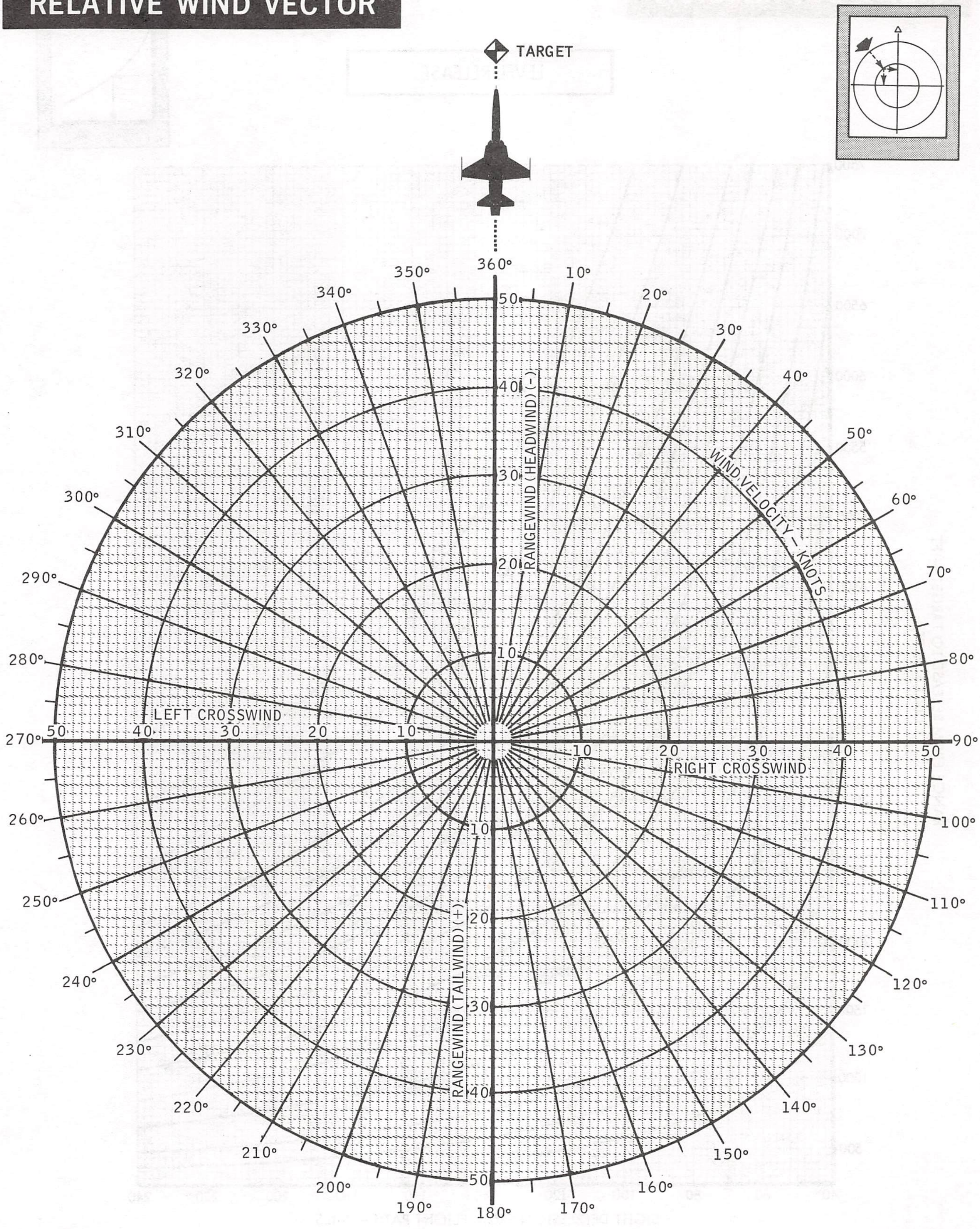




F-5E 34-116

Figure 6-9.

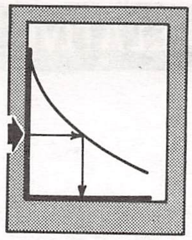
RELATIVE WIND VECTOR



F-5 34-117(2)

Figure 6-10.

SIGHT DEPRESSION



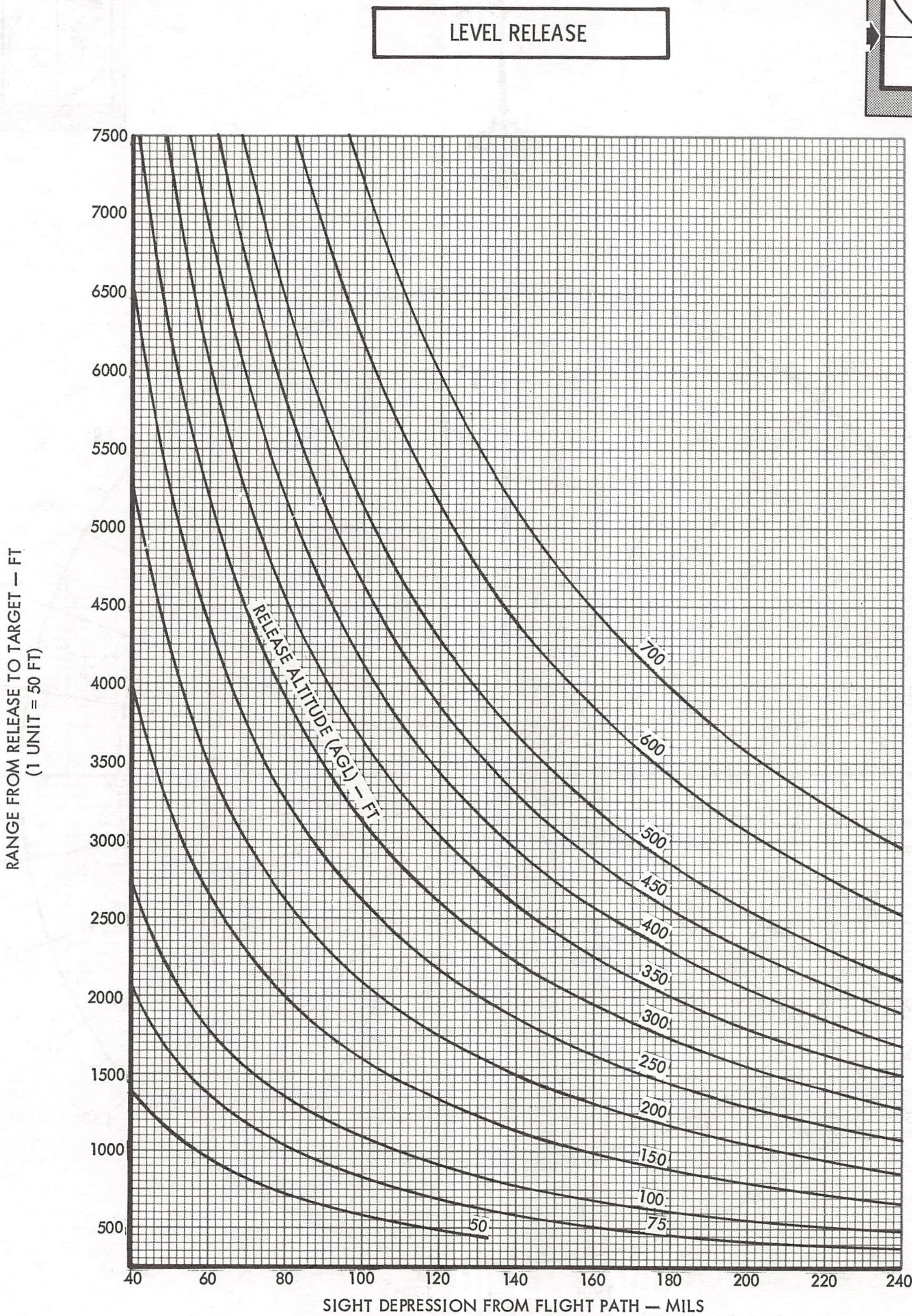
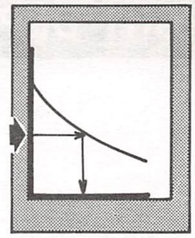
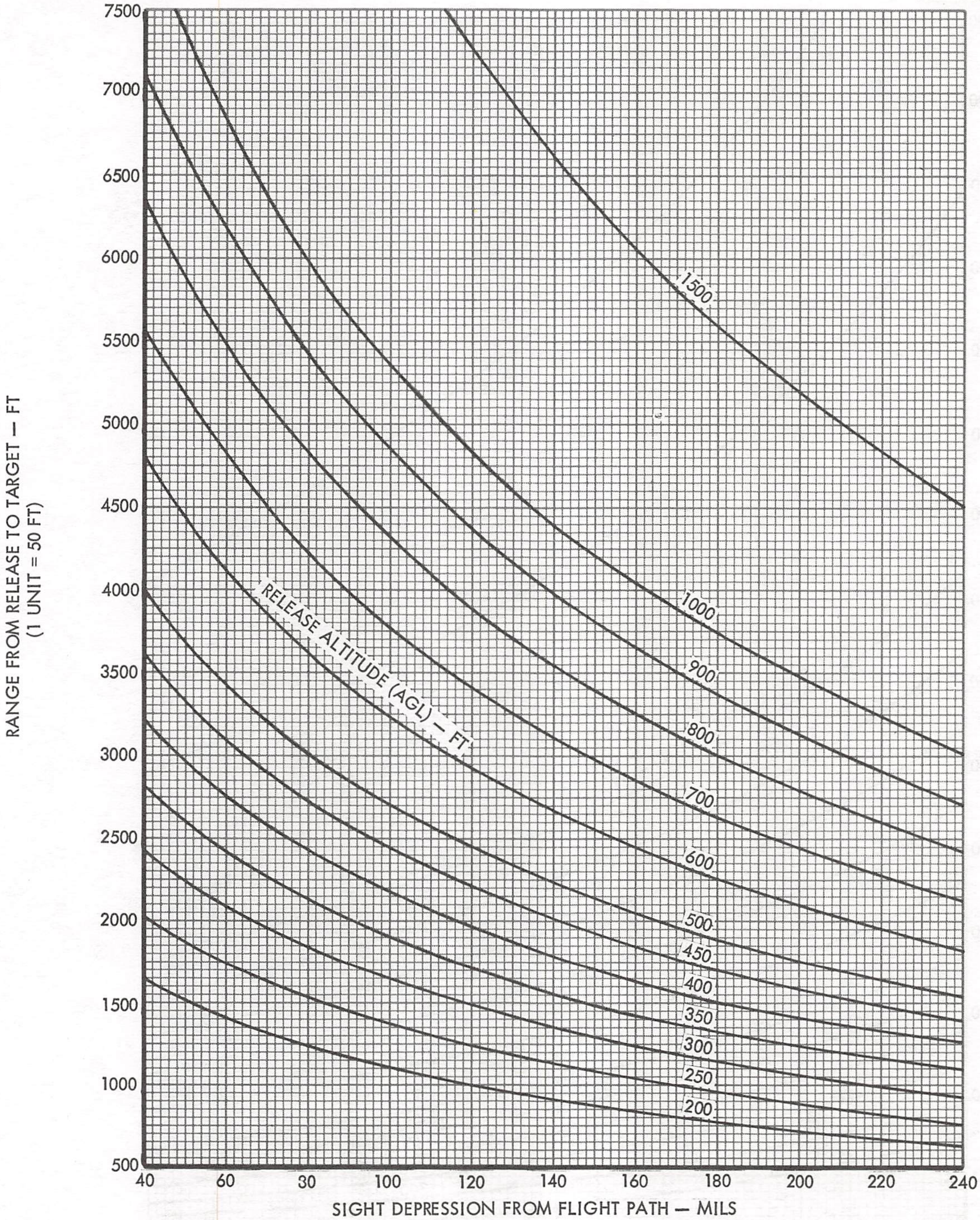


Figure 6-11. (Sheet 1)

SIGHT DEPRESSION



5° DIVE RELEASE

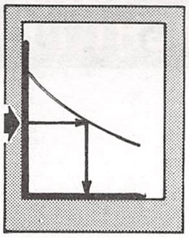


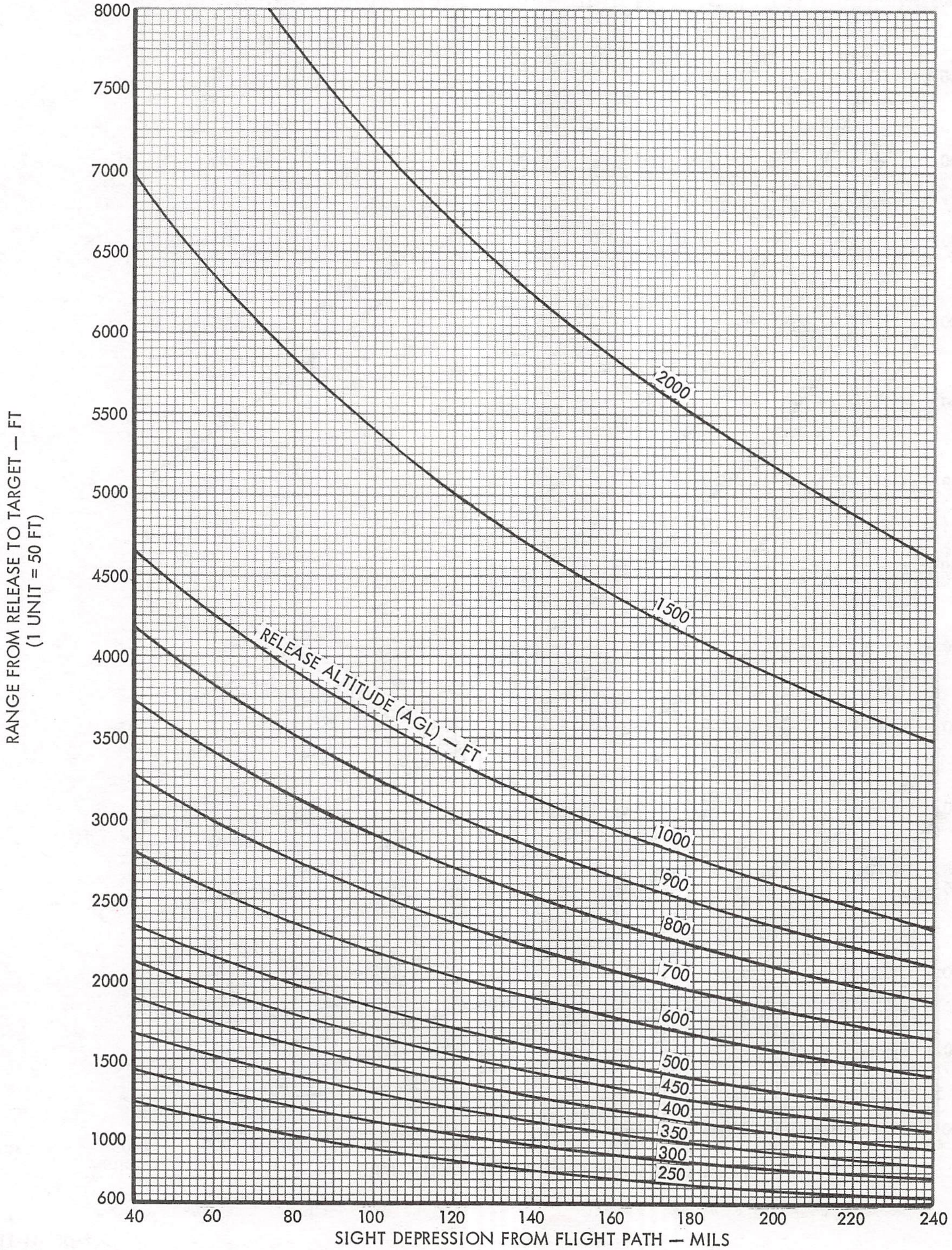
F-5E 34-119

Figure 6-11. (Sheet 2)

SIGHT DEPRESSION

10° DIVE RELEASE

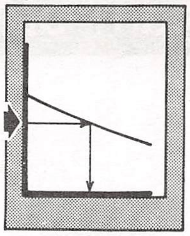




F-5E 34-120

Figure 6-11. (Sheet 3)

SIGHT DEPRESSION



15° DIVE RELEASE

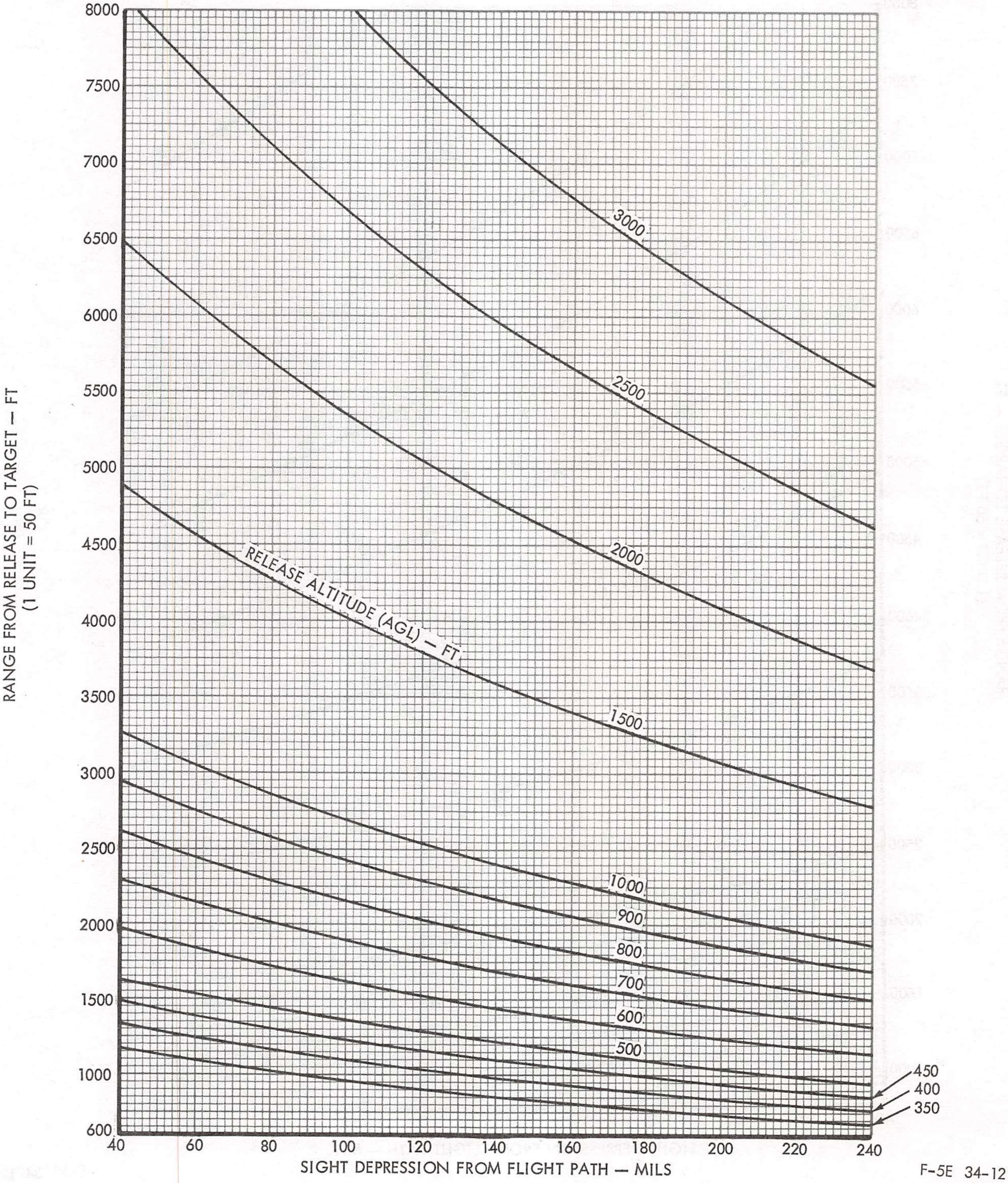
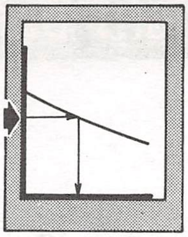


Figure 6-11. (Sheet 4)

SIGHT DEPRESSION



20° DIVE RELEASE

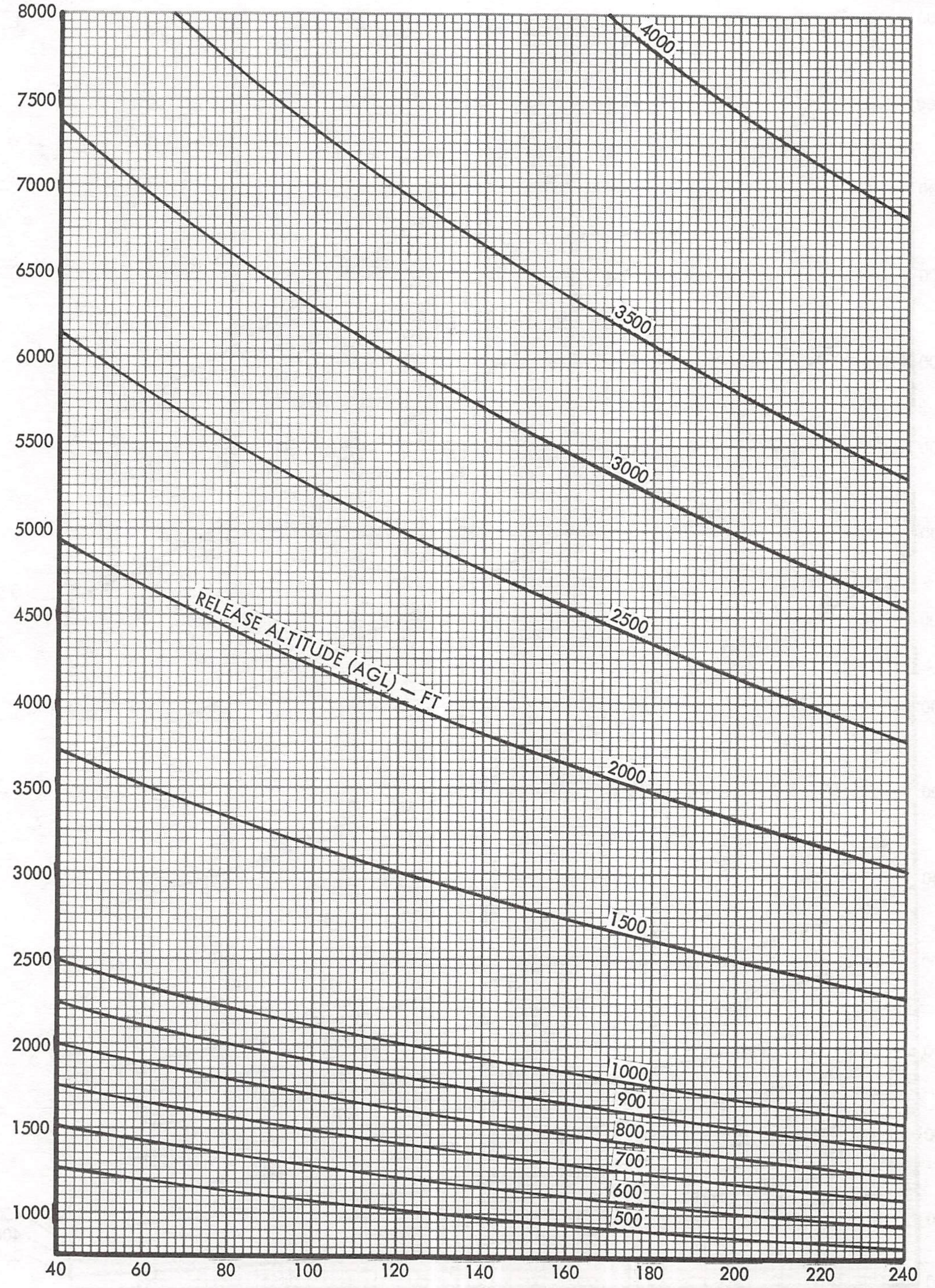
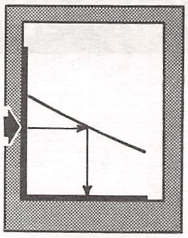
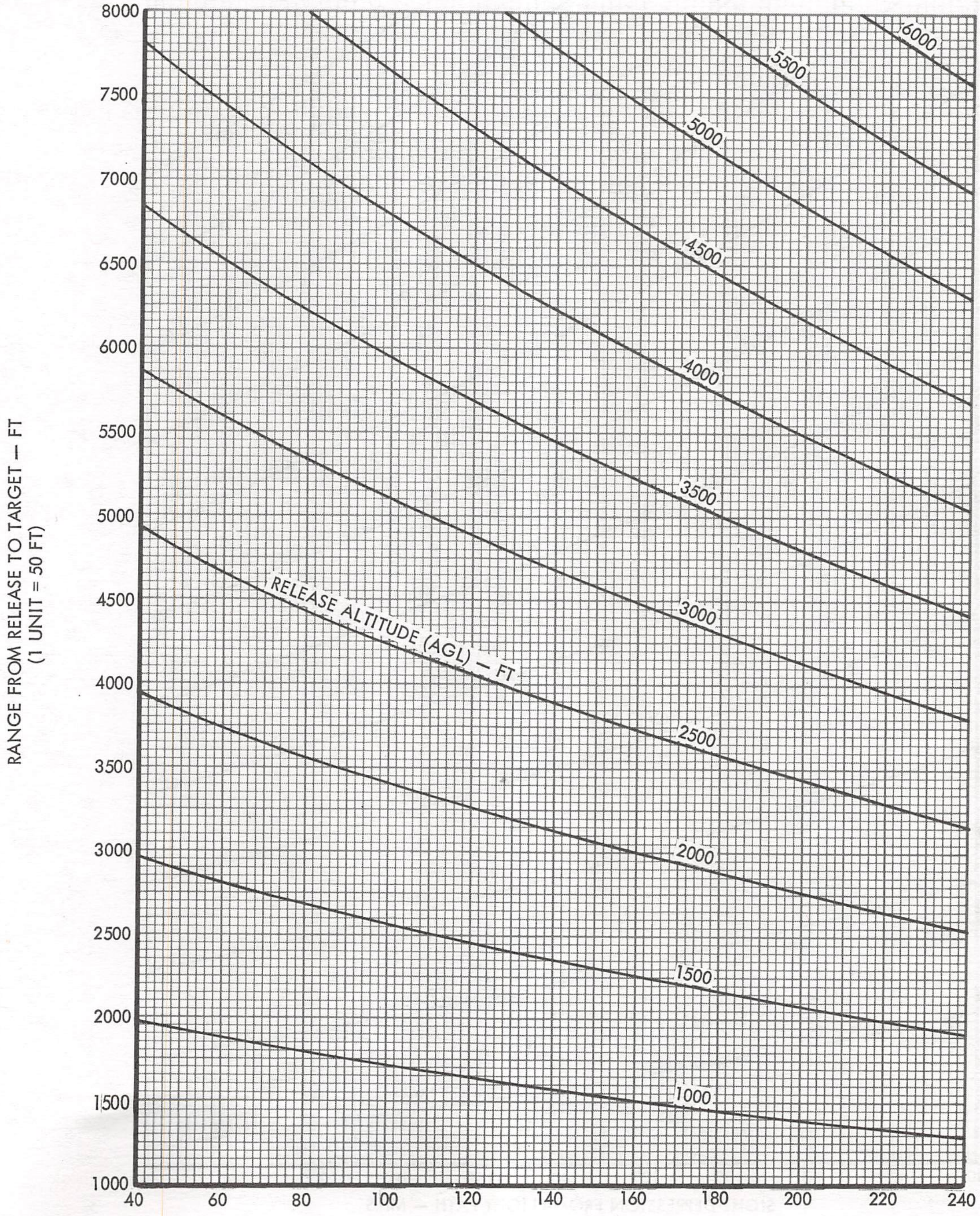


Figure 6-11. (Sheet 5)

SIGHT DEPRESSION

25° DIVE RELEASE

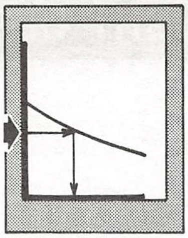




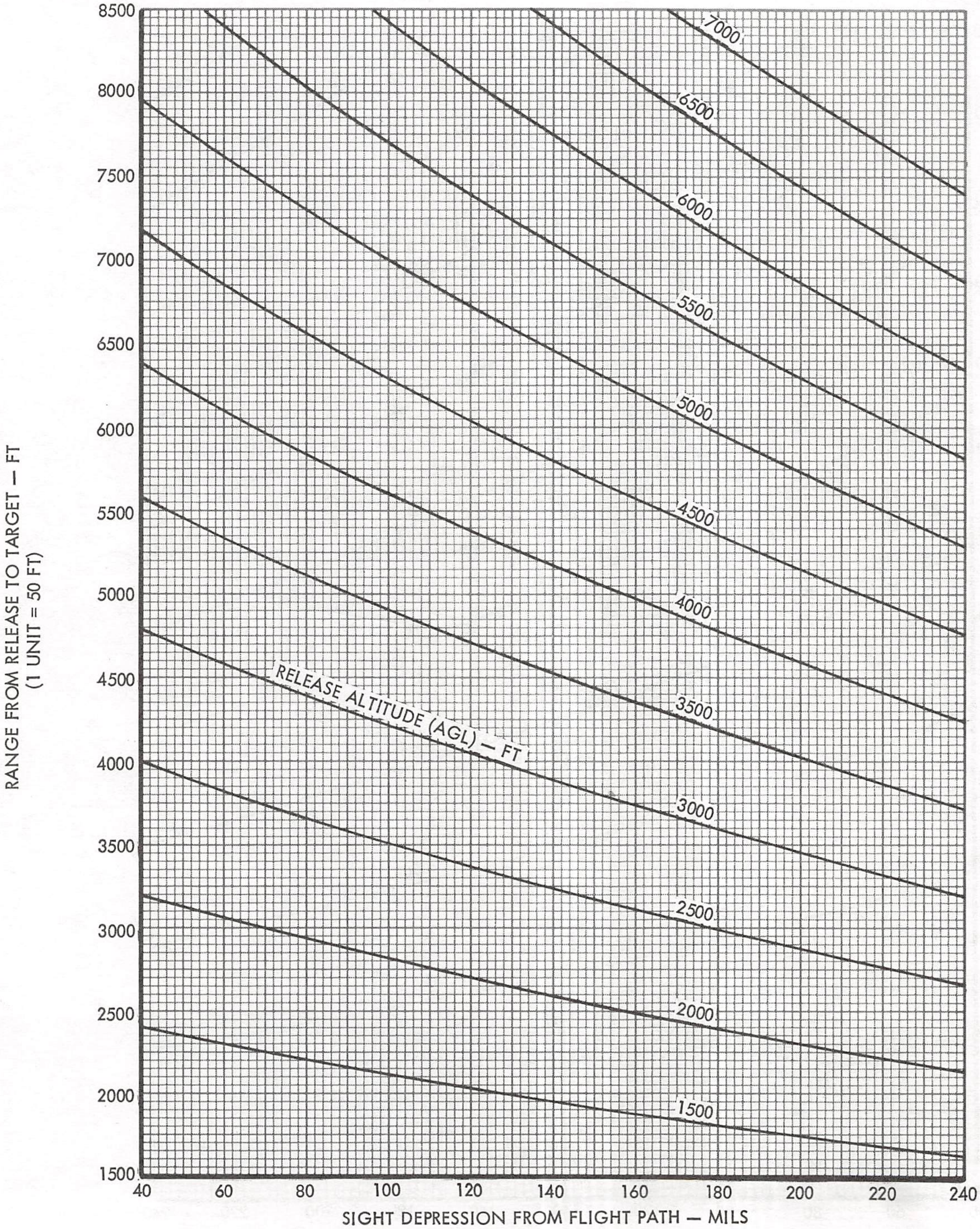
F-5E 34-123

Figure 6-11. (Sheet 6)

SIGHT DEPRESSION



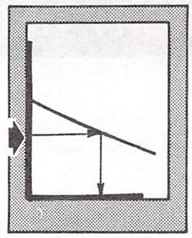
30° DIVE RELEASE



F-5E 34-124

Figure 6-11. (Sheet 7)

SIGHT DEPRESSION



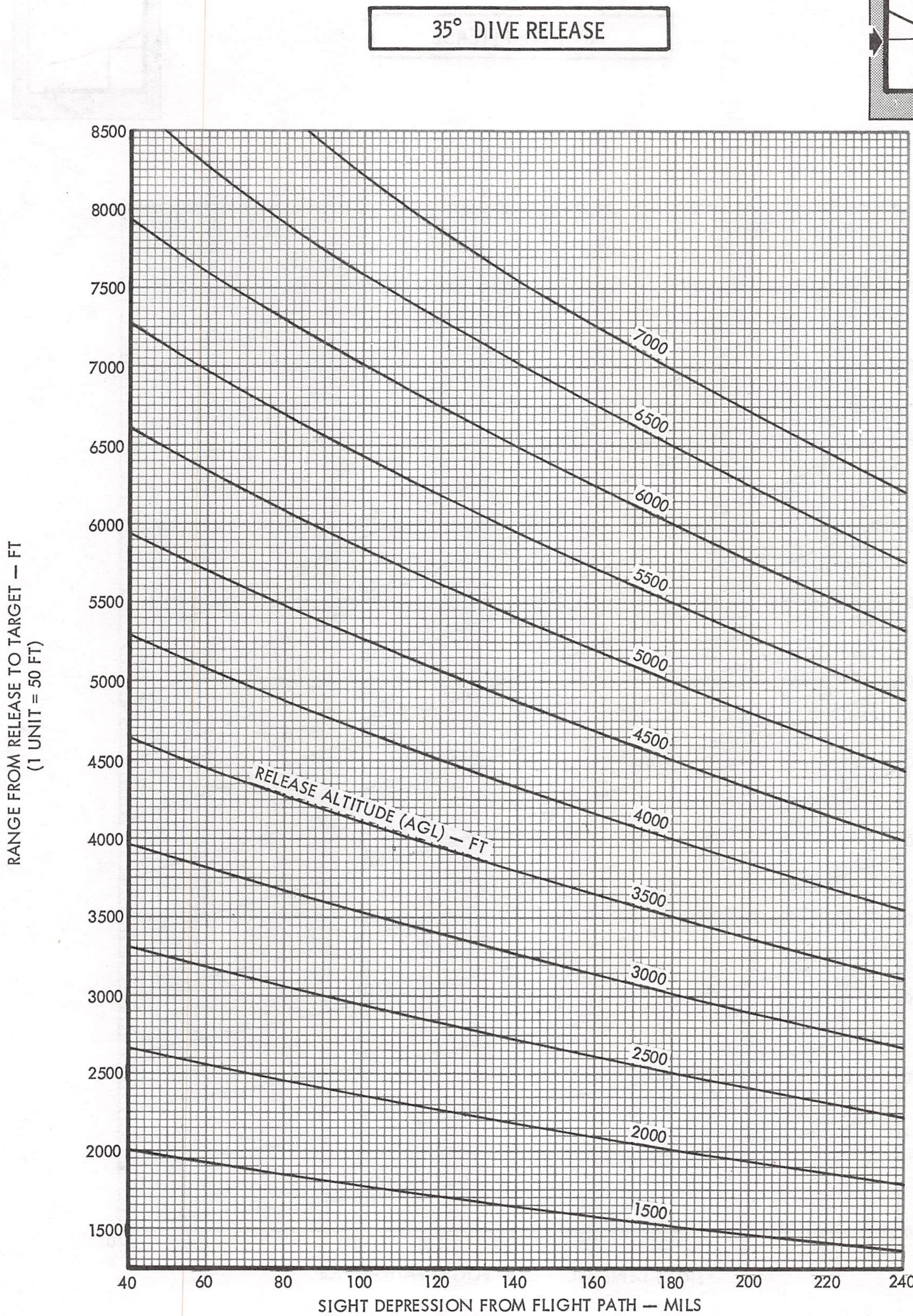
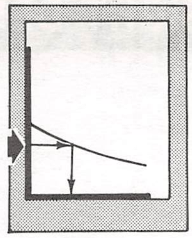


Figure 6-11. (Sheet 8)

SIGHT DEPRESSION



40° DIVE RELEASE

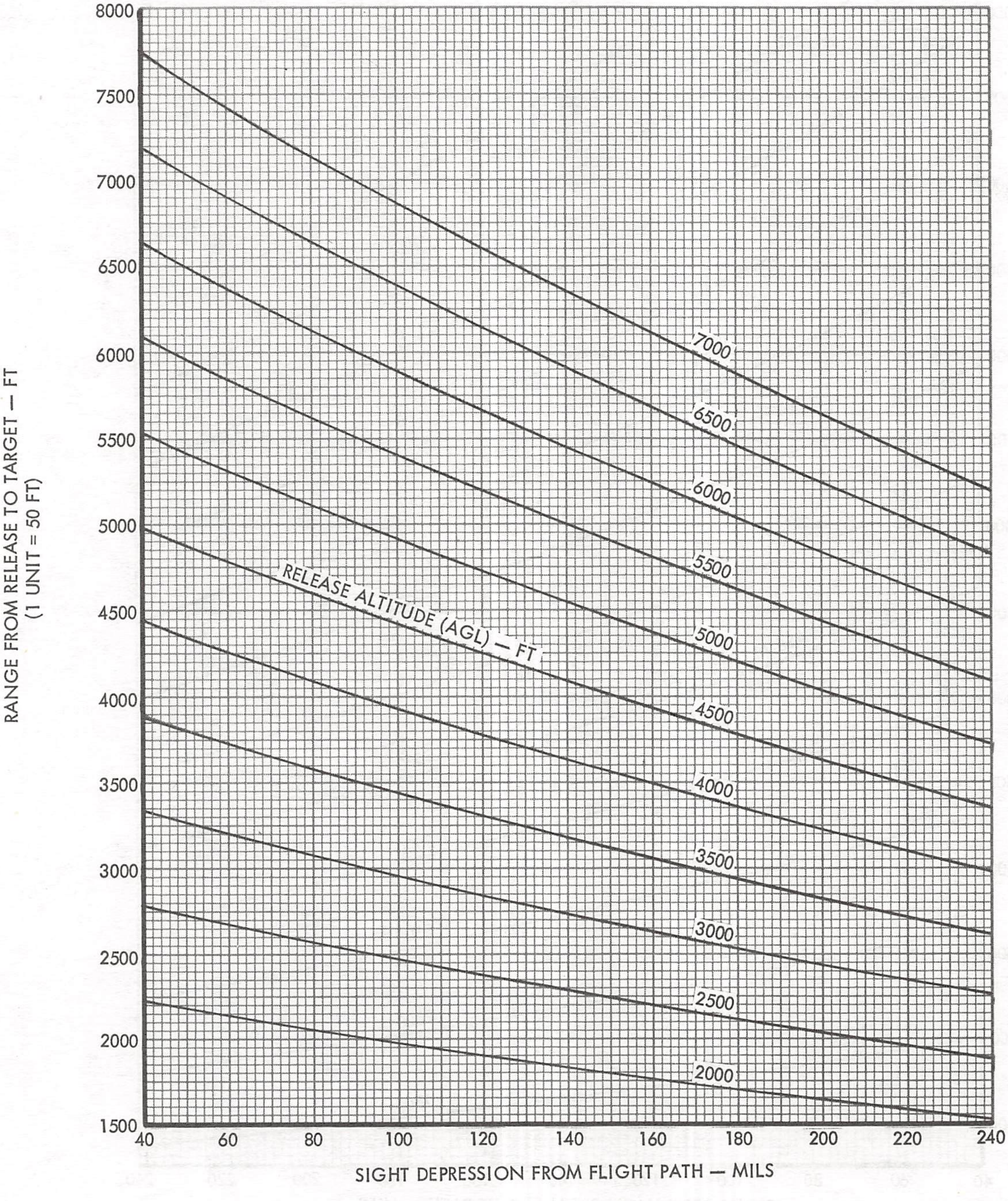
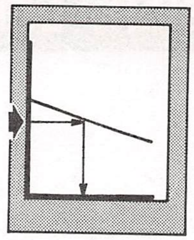


Figure 6-11. (Sheet 9)

SIGHT DEPRESSION



45° DIVE RELEASE

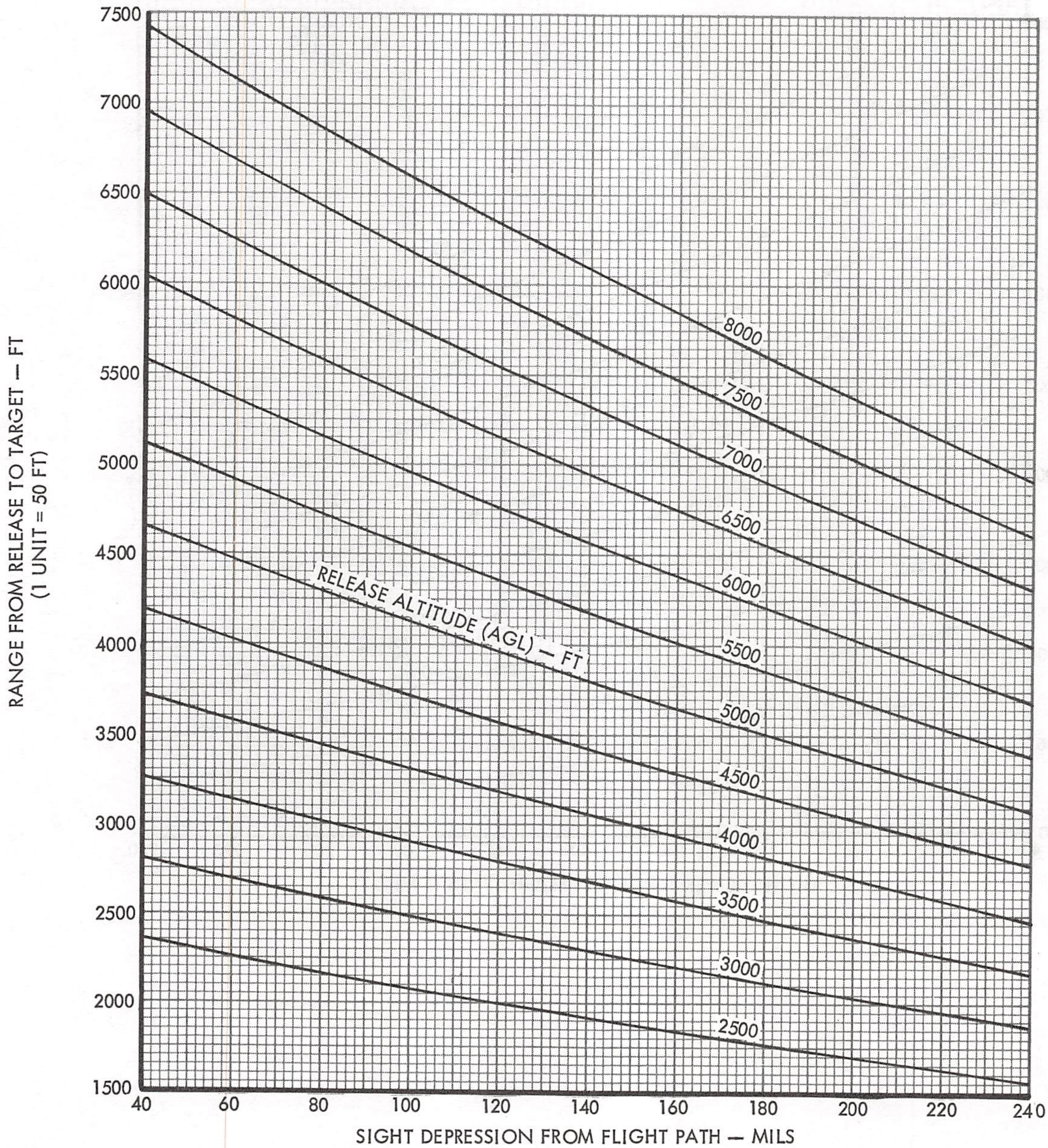
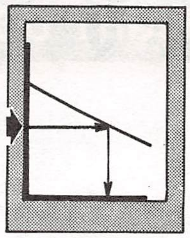
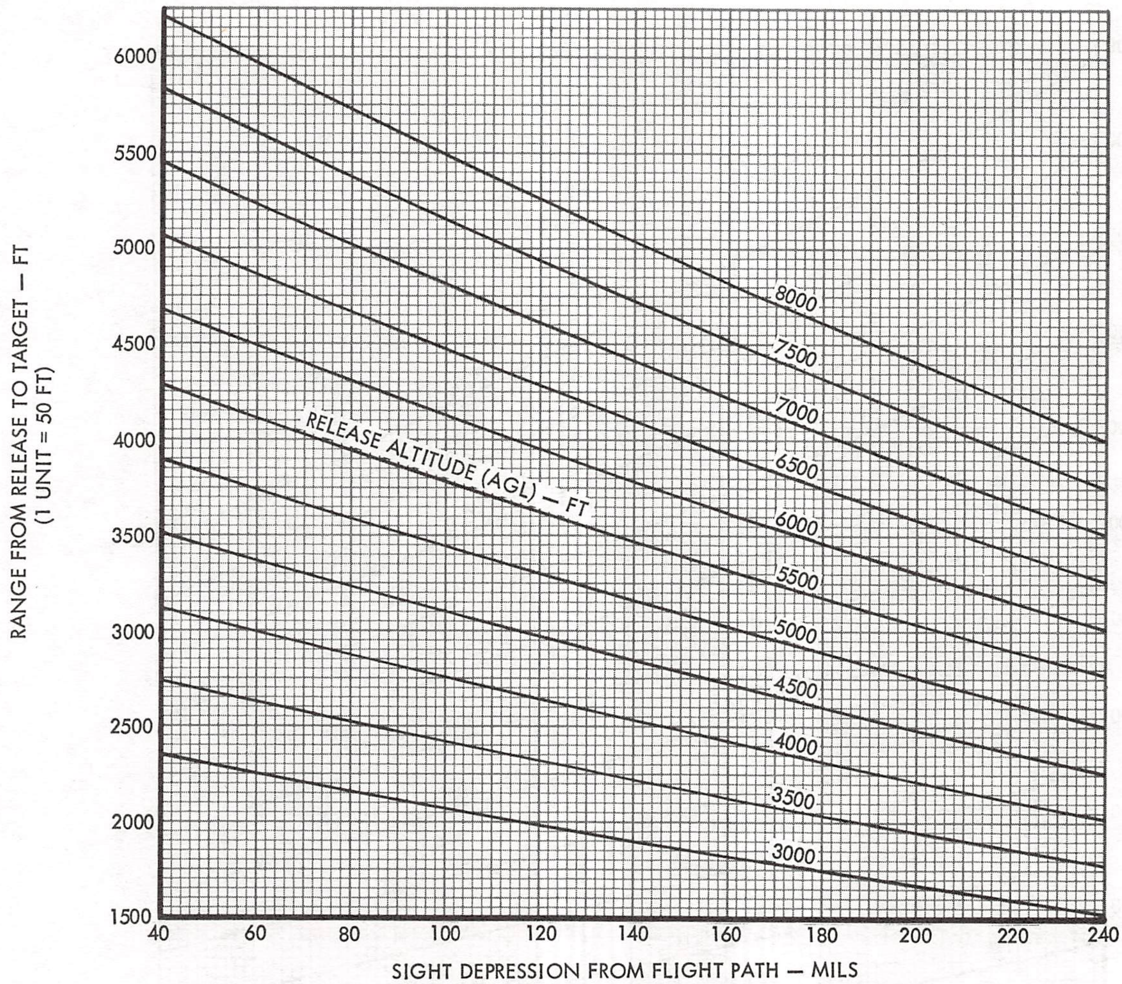


Figure 6-11. (Sheet 10)

SIGHT DEPRESSION



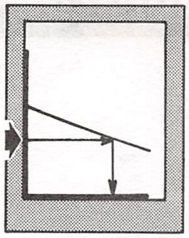
50° DIVE RELEASE



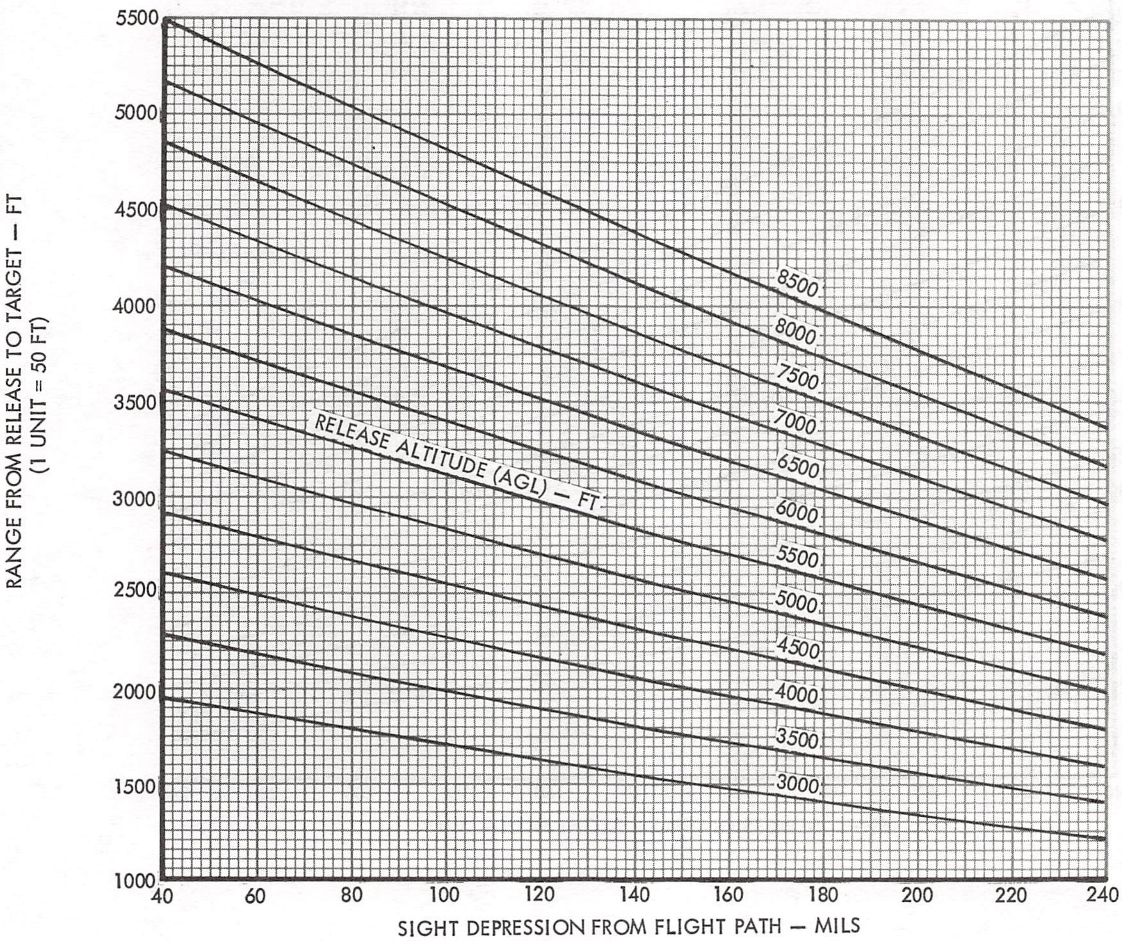
F-5E 34-128

Figure 6-11. (Sheet 11)

SIGHT DEPRESSION



55° DIVE RELEASE

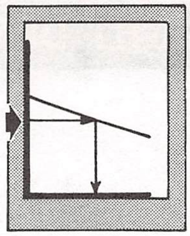


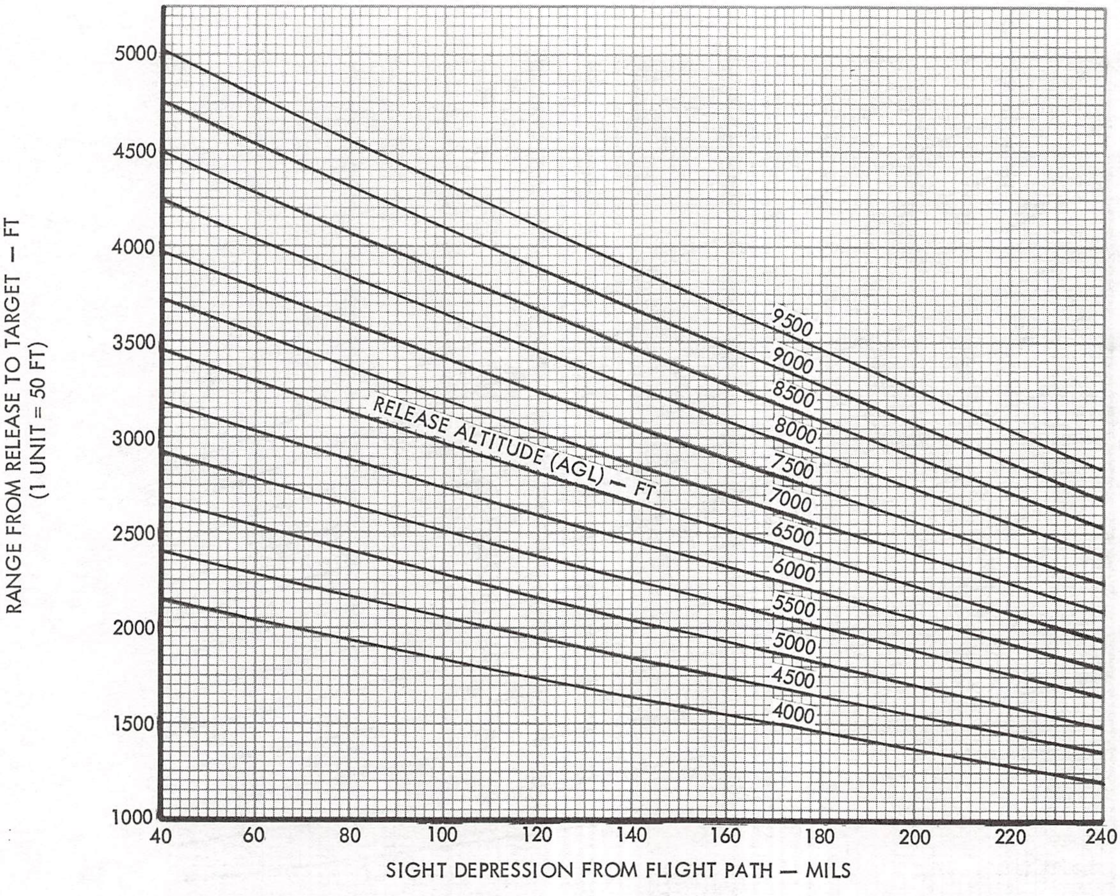
F-5E 34-129

Figure 6-11. (Sheet 12)

SIGHT DEPRESSION

60° DIVE RELEASE

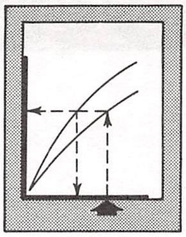




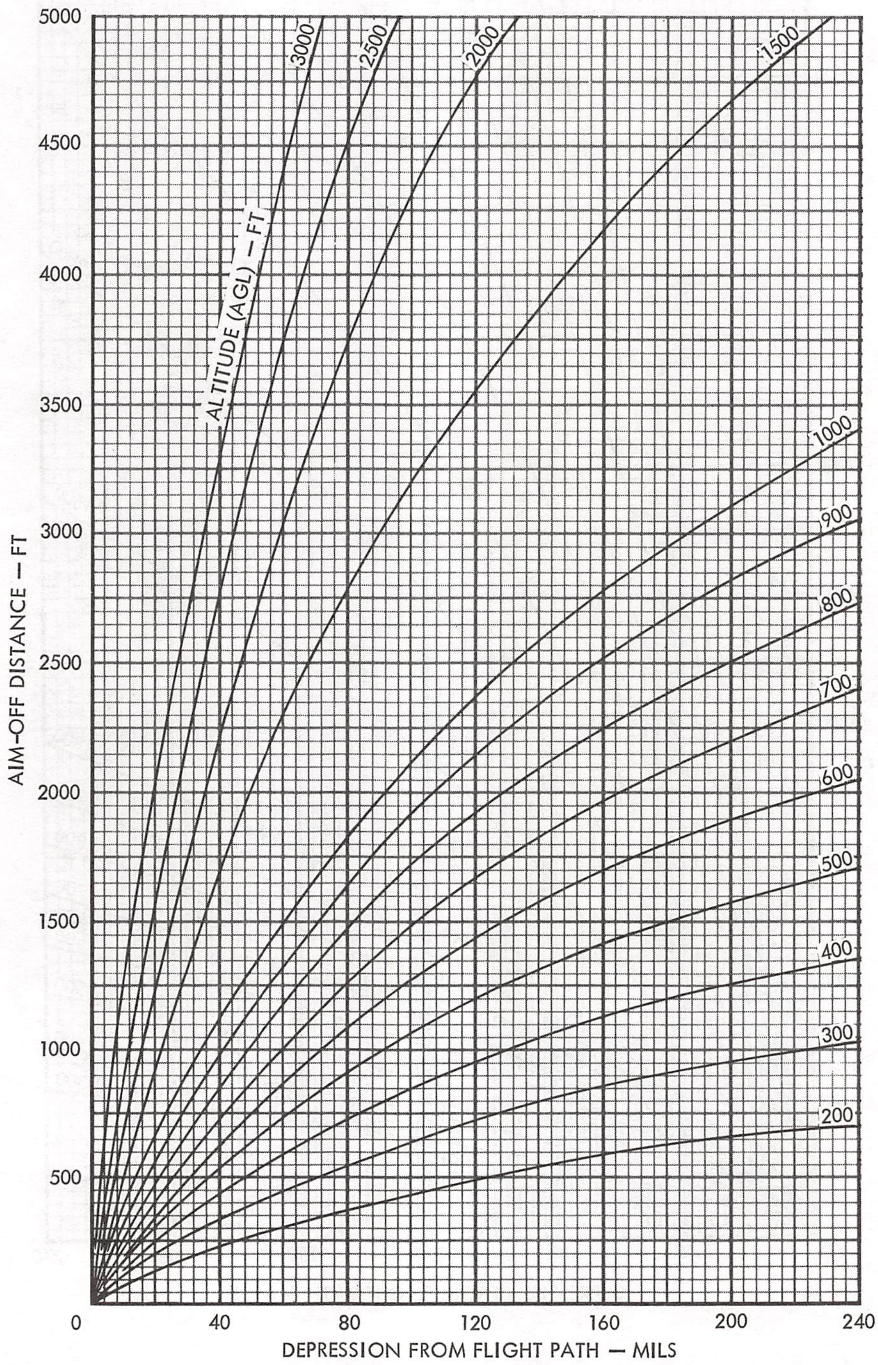
F-5E 34-130

Figure 6-11. (Sheet 13)

AIM-OFF DISTANCE



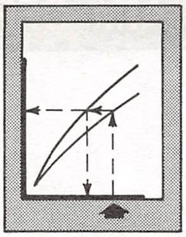
10° DIVE ANGLE



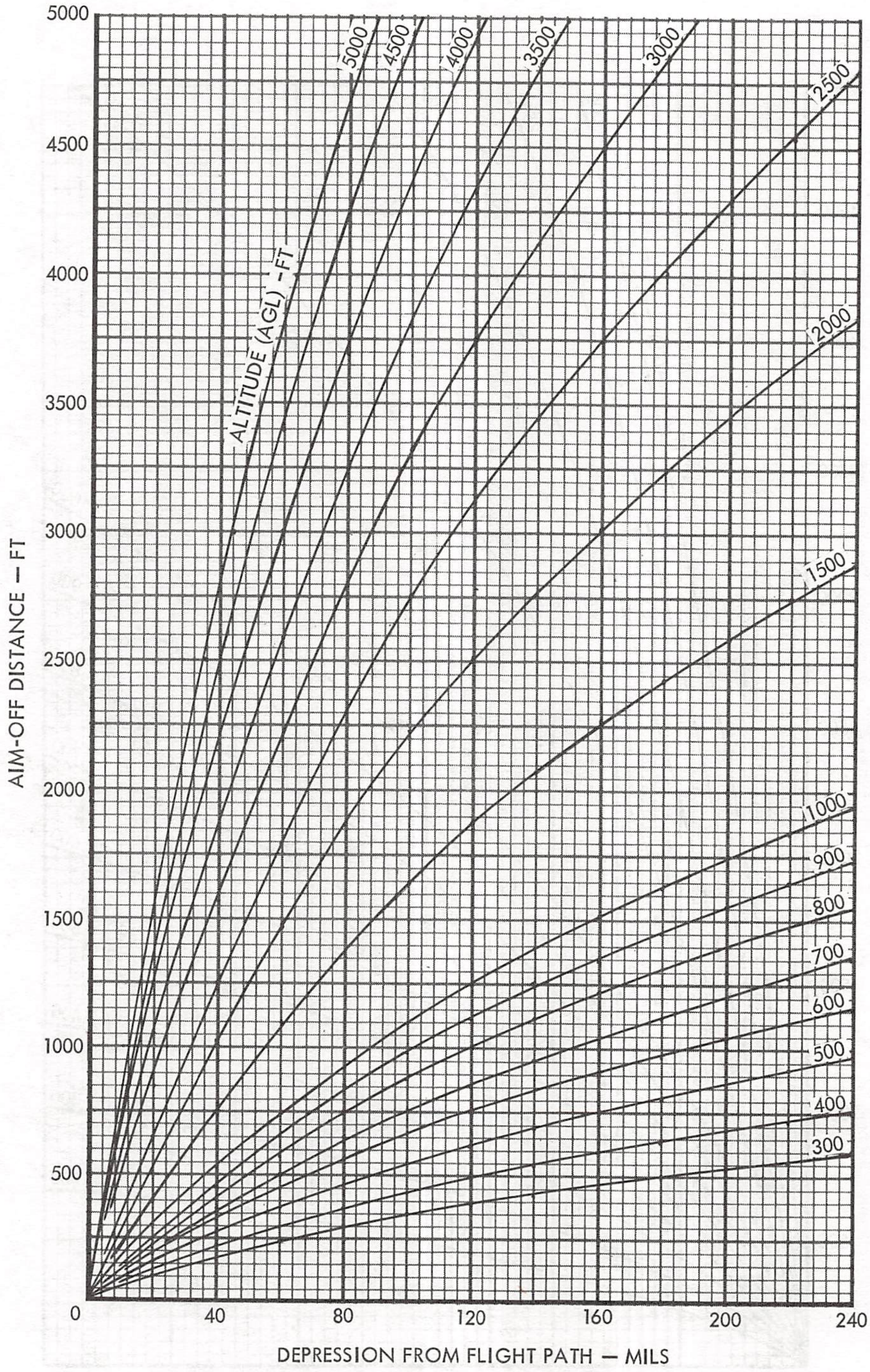
F-5 34-167(1)A

Figure 6-12. (Sheet 1)

AIM-OFF DISTANCE



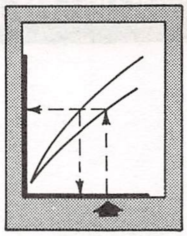
15° DIVE ANGLE



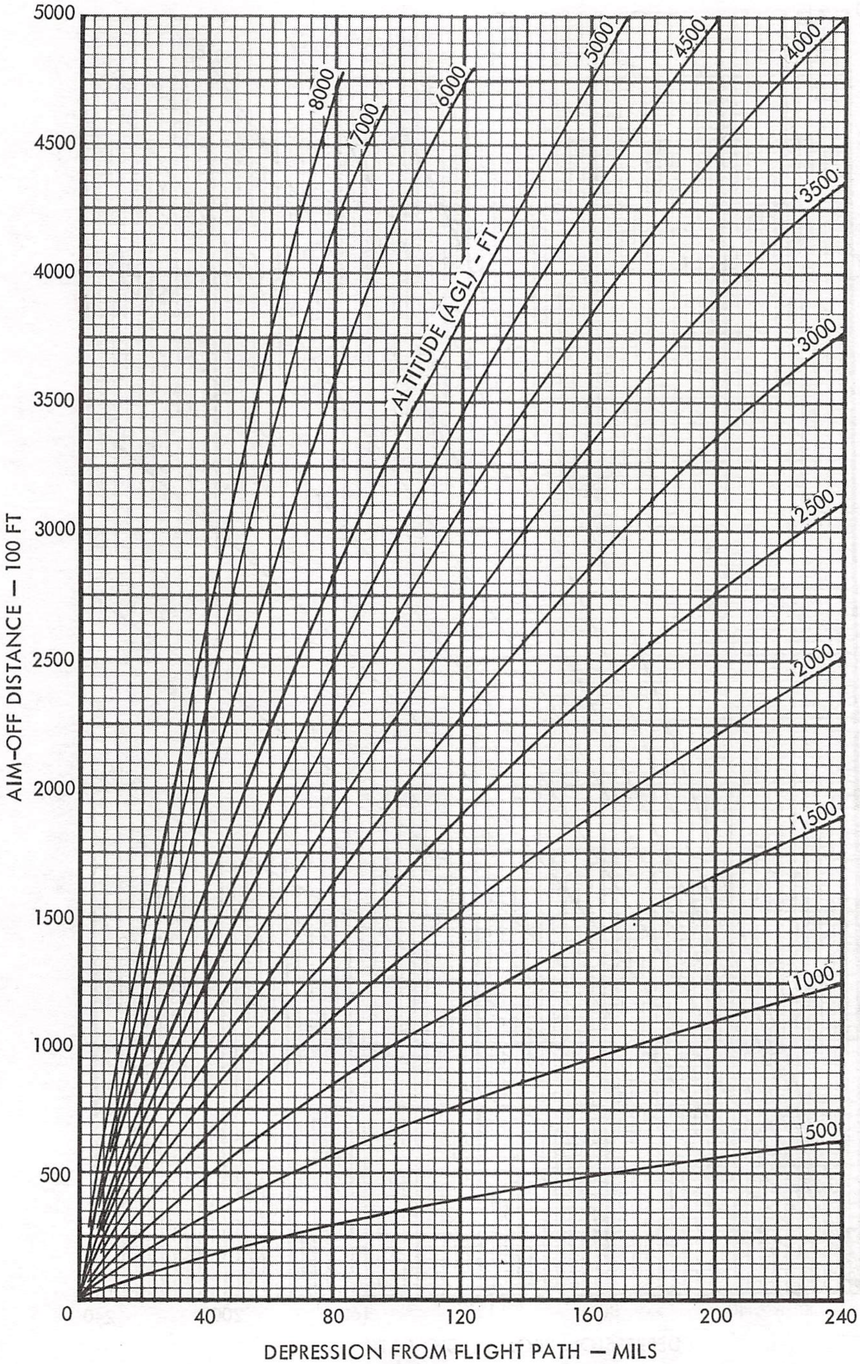
F-5 34-167(2)A

Figure 6-12. (Sheet 2)

AIM-OFF DISTANCE



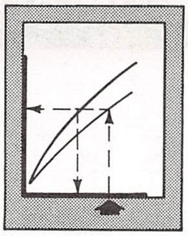
20° DIVE ANGLE



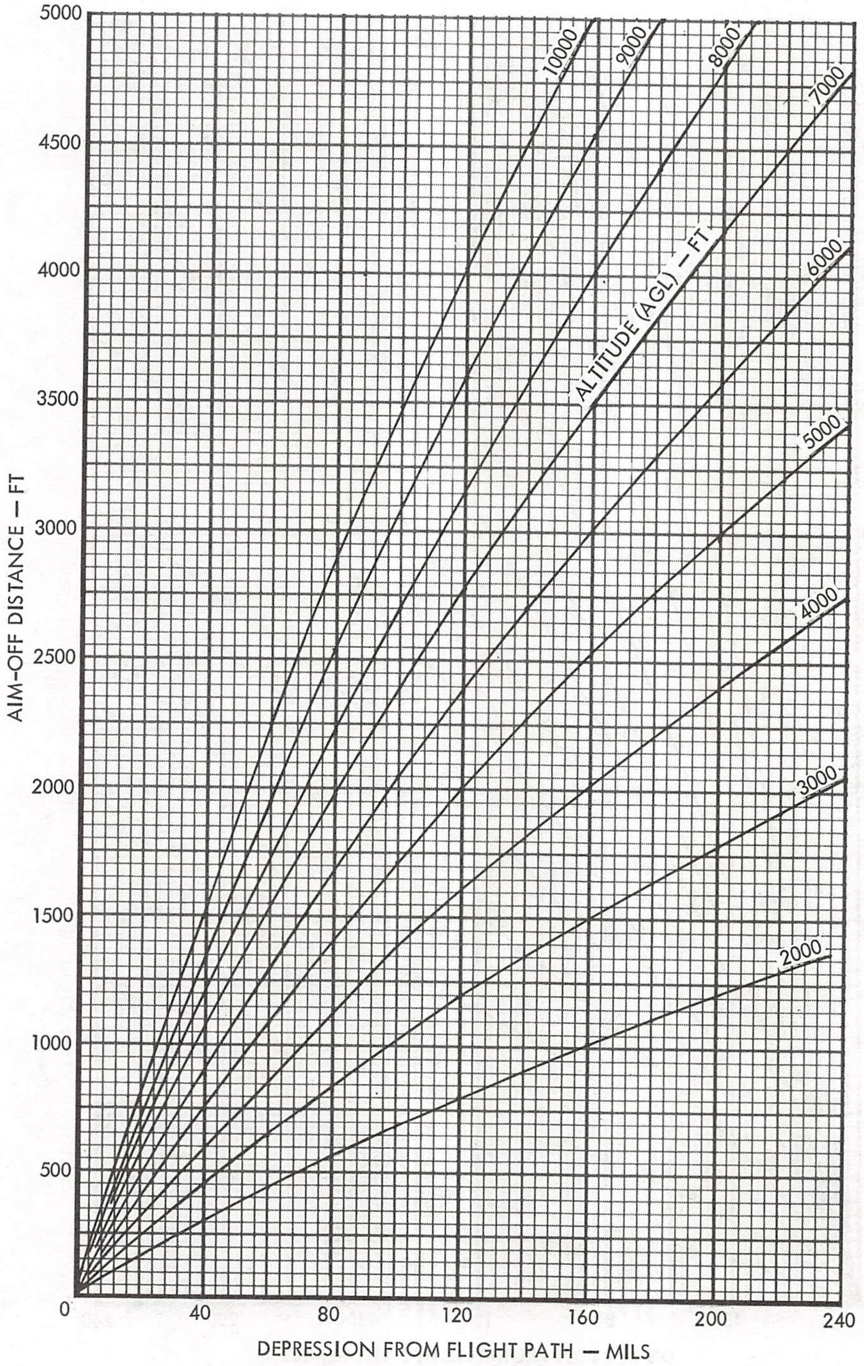
F-5 34-167(3)A

Figure 6-12. (Sheet 3)

AIM-OFF DISTANCE



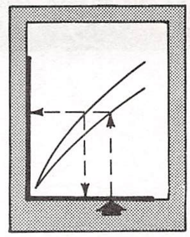
30° DIVE ANGLE



F-5 34-167(4)A

Figure 6-12. (Sheet 4)

AIM-OFF DISTANCE



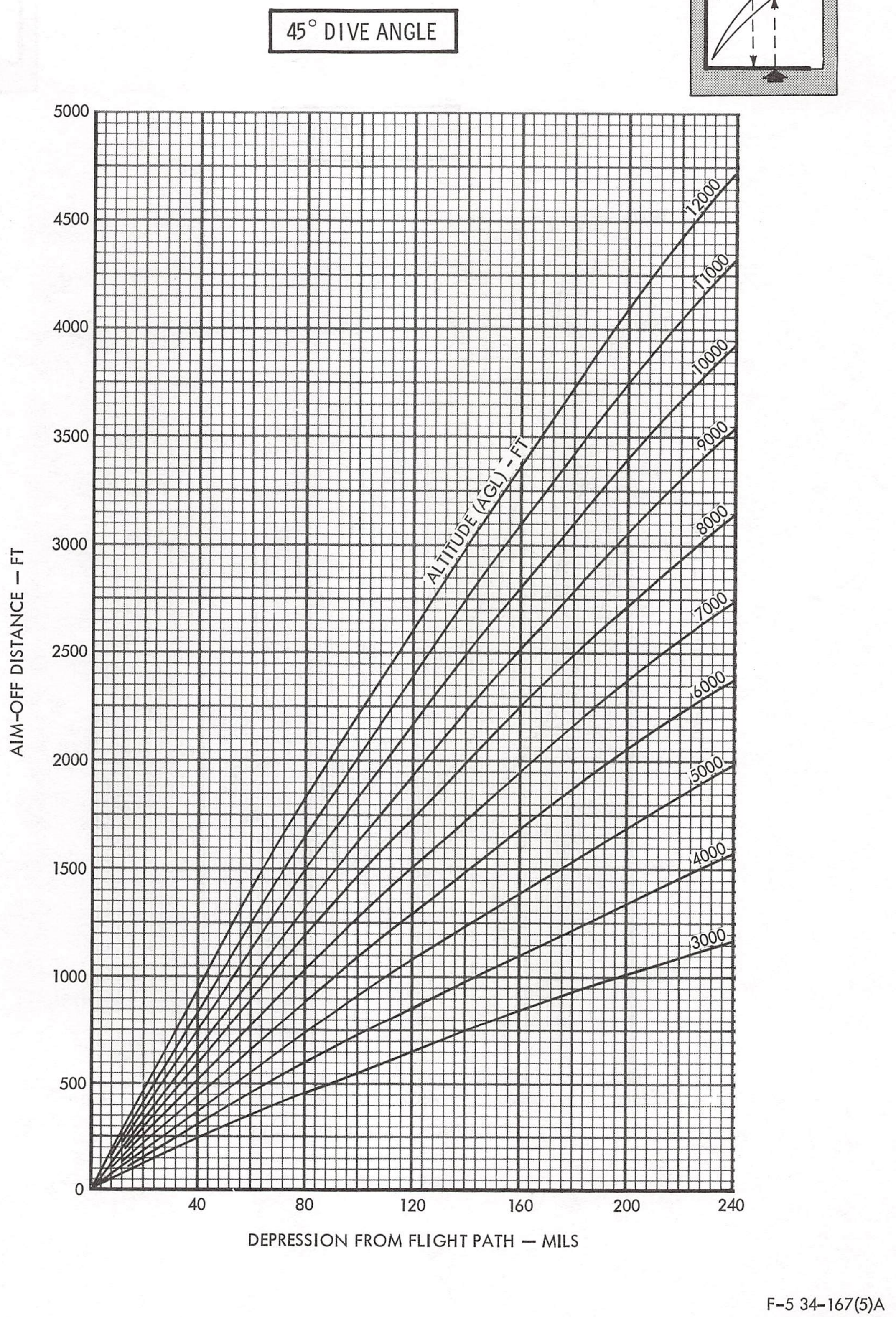
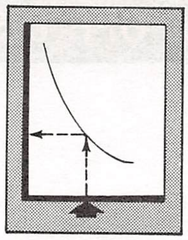
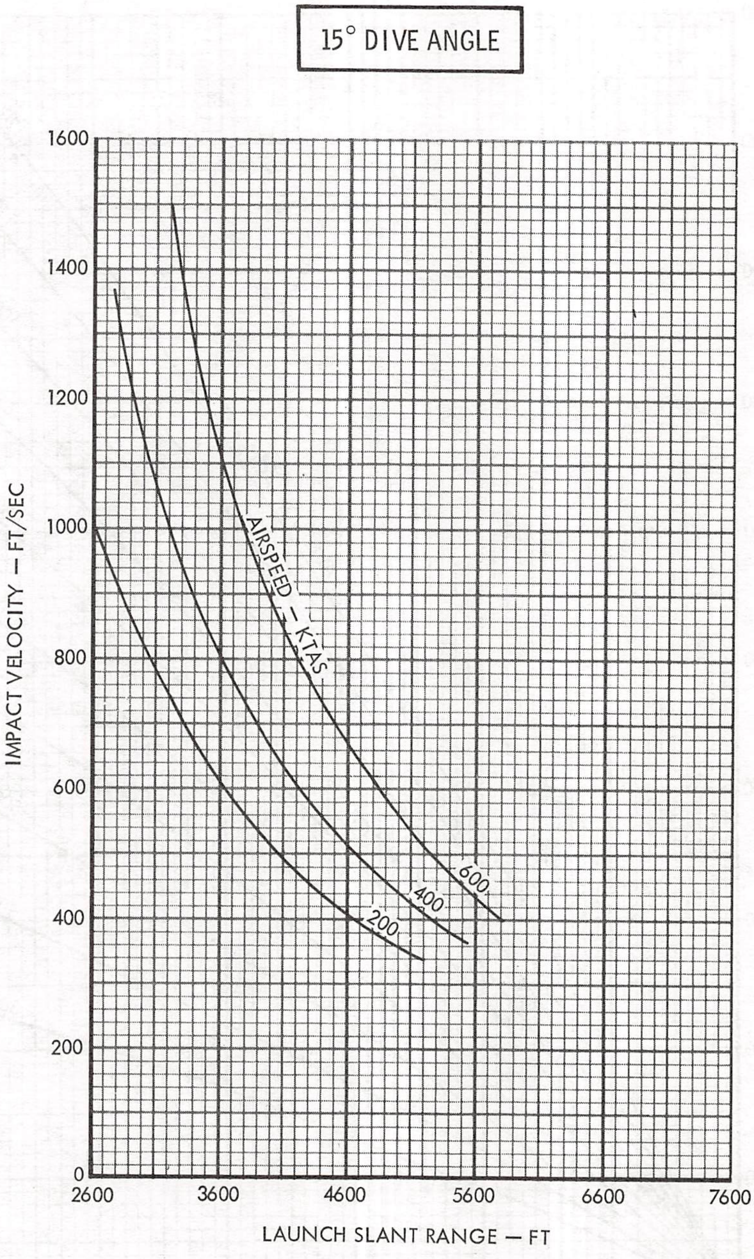


Figure 6-12. (Sheet 5)

WDU-4A/A FLECHETTE IMPACT VELOCITY

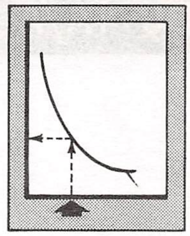




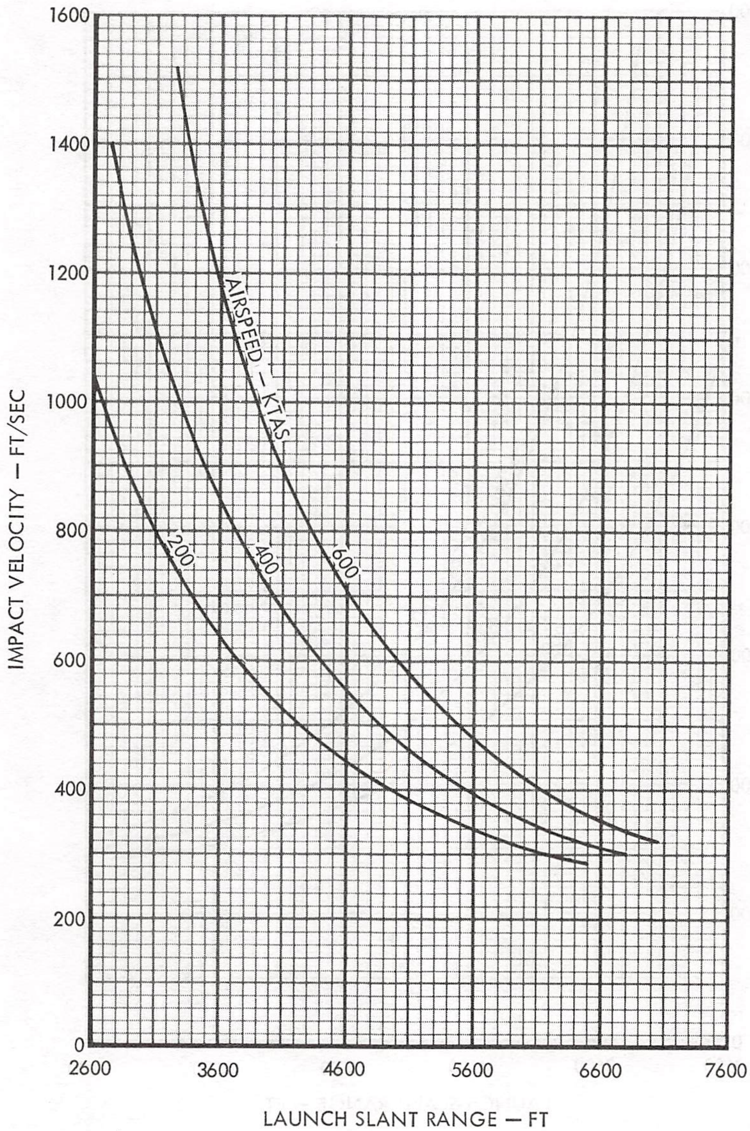
F-5E 34-177

Figure 6-13. (Sheet 1)

WDU-4A/A FLECHETTE IMPACT VELOCITY



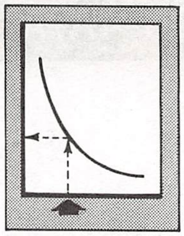
30° DIVE ANGLE



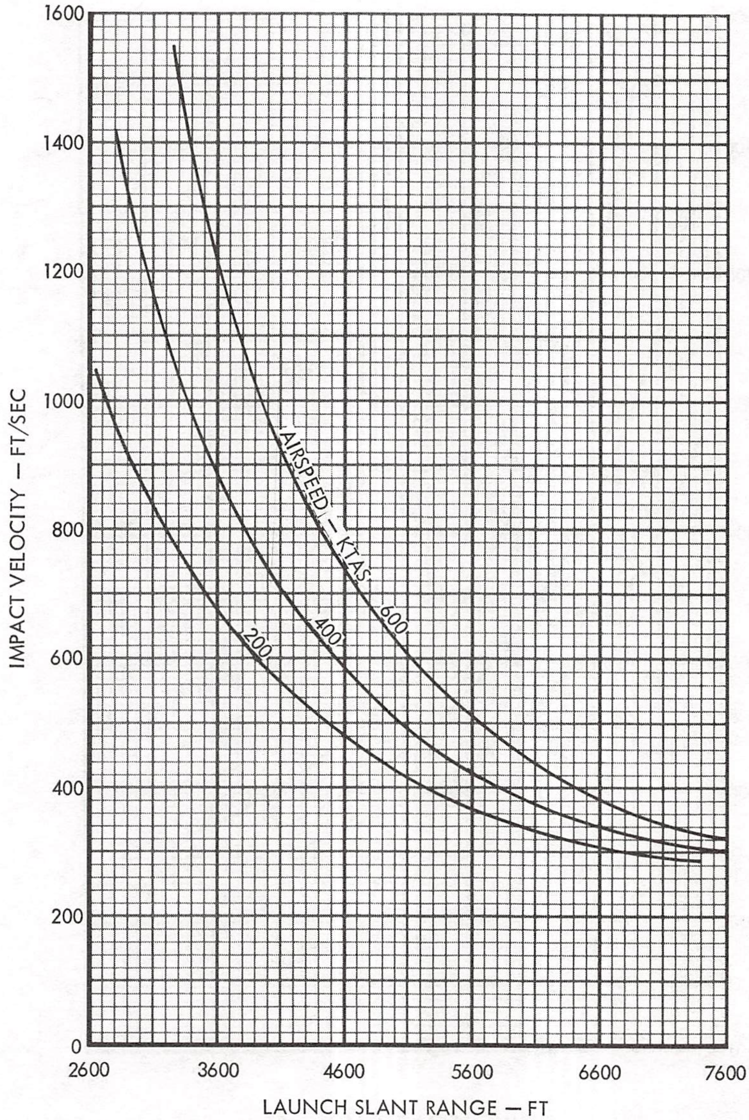
F-5E 34-178

Figure 6-13. (Sheet 2)

WDU-4A/A FLECHETTE IMPACT VELOCITY



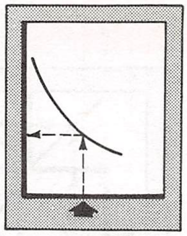
45° DIVE ANGLE



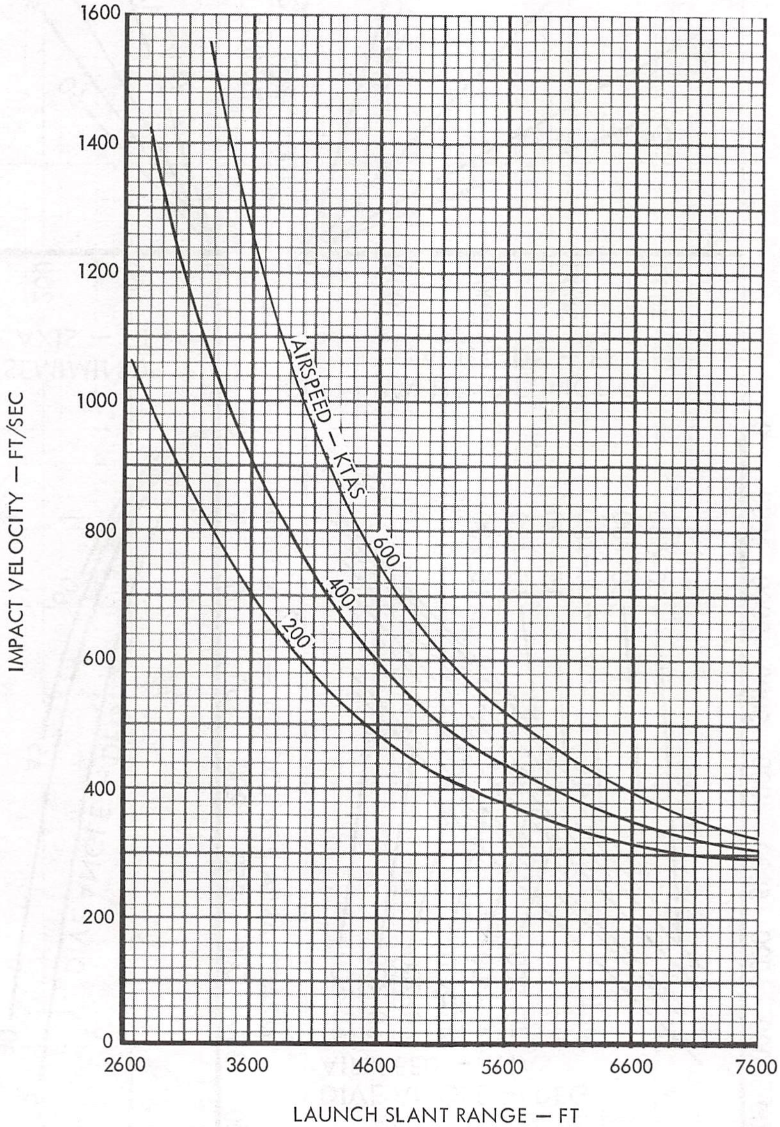
F-5E 34-179

Figure 6-13. (Sheet 3)

WDU-4A/A FLECHETTE IMPACT VELOCITY



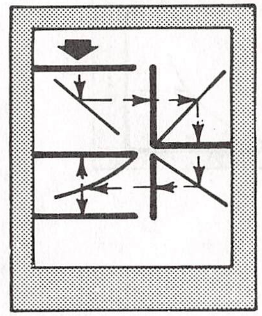
60° DIVE ANGLE



F-5E 34-180

Figure 6-13. (Sheet 4)

WDU-4A/A FLECHETTE IMPACT PATTERN



2.75-INCH FFAR

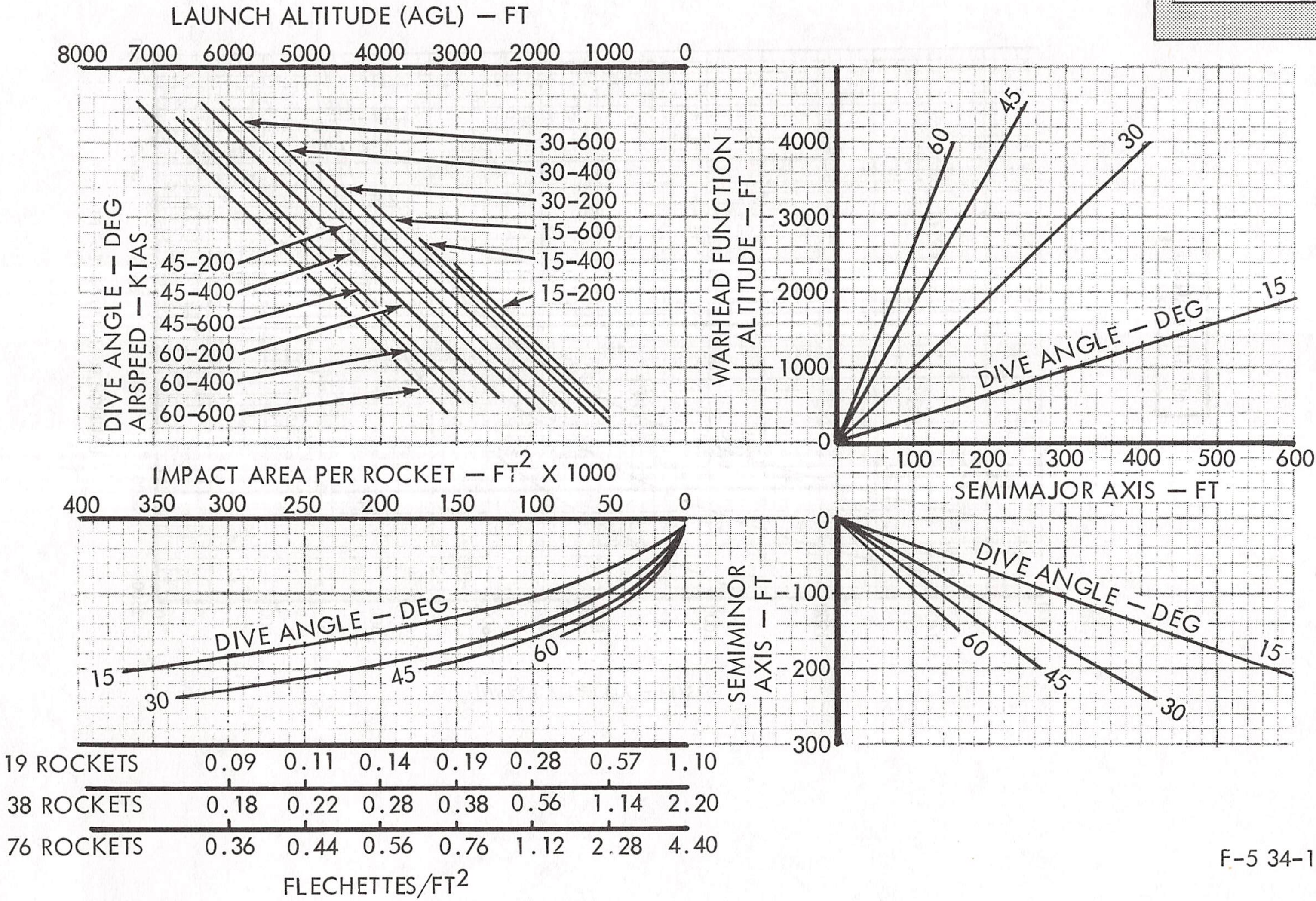
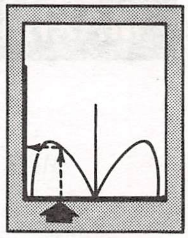
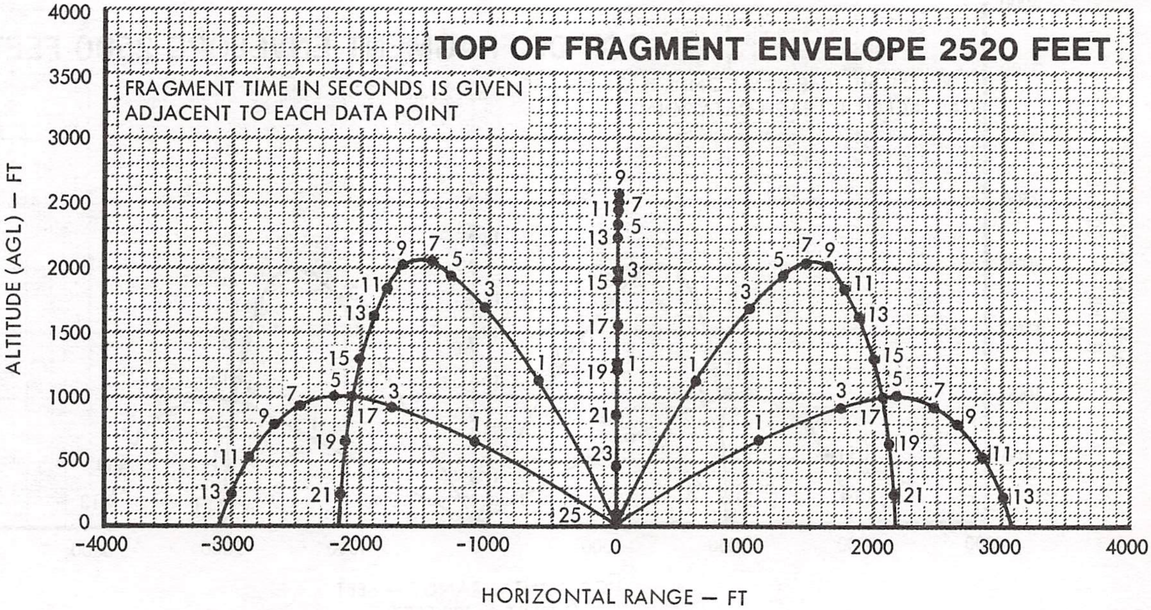


Figure 6-14.

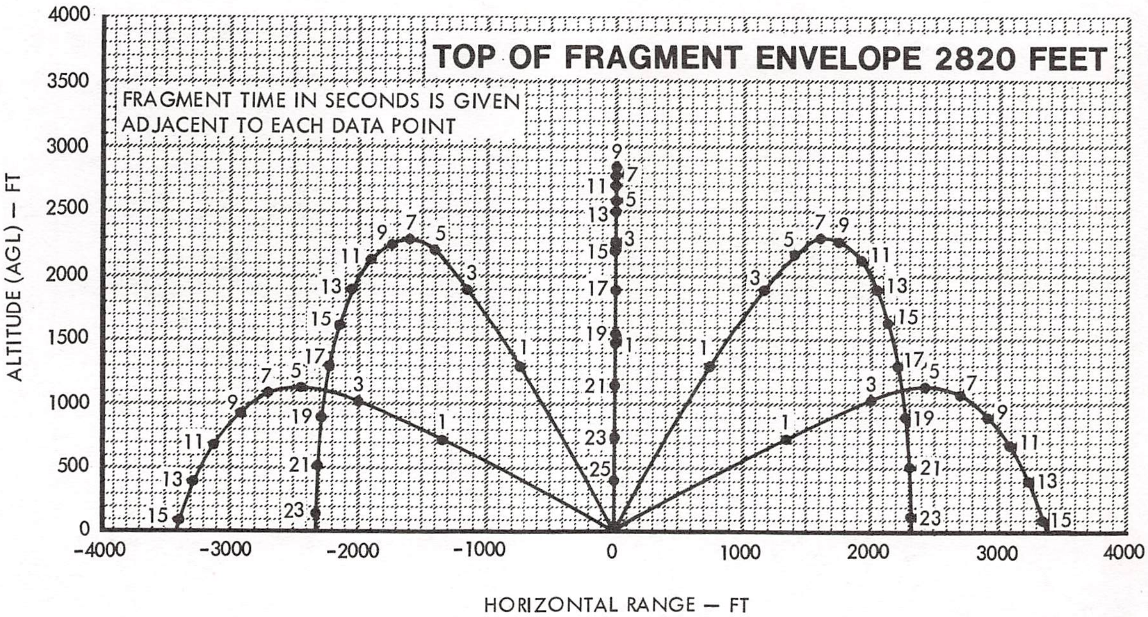
MAXIMUM FRAGMENT ENVELOPE



MK-82 GP, MK-82 SNAKEYE I, MK-36 DESTRUCTOR, GBU-12



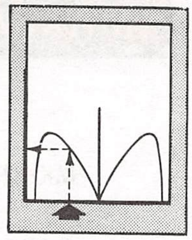
MK-83, MK-84, GBU-10



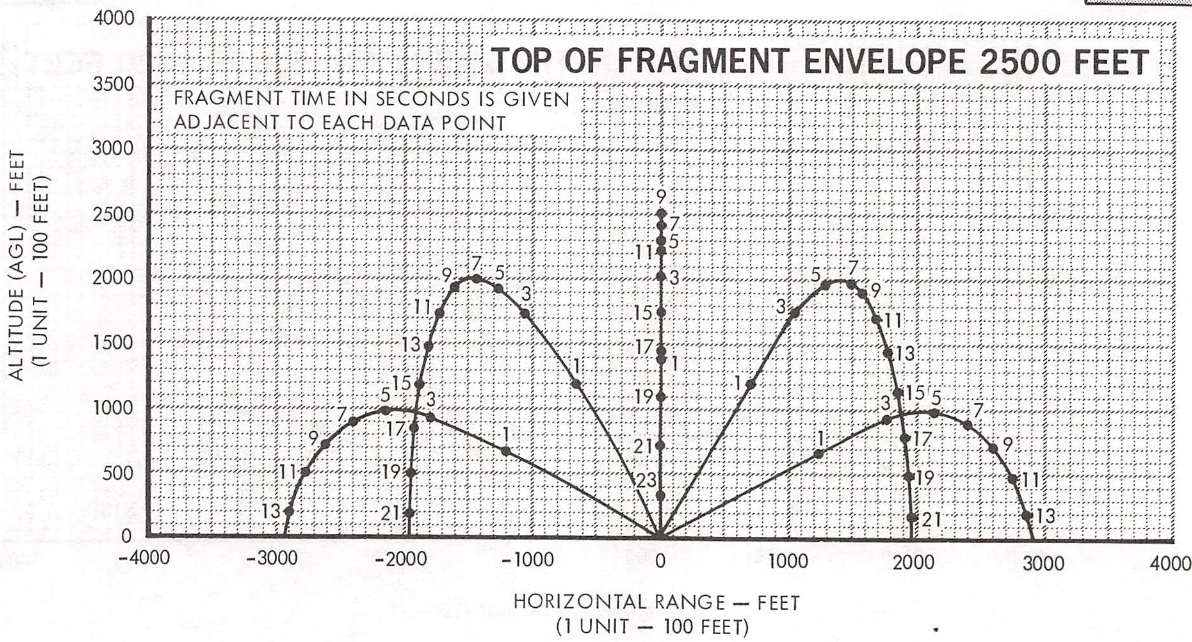
F-5 34-119(1)D

Figure 6-15. (Sheet 1)

MAXIMUM FRAGMENT ENVELOPE



M117 GP BOMB



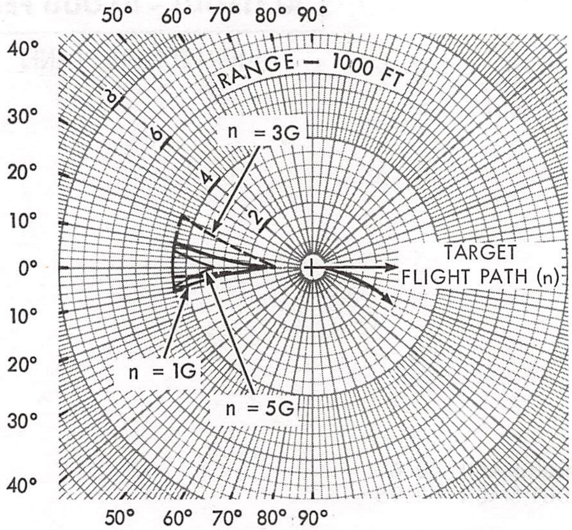
F-5 34-119(2)

Figure 6-15. (Sheet 2)

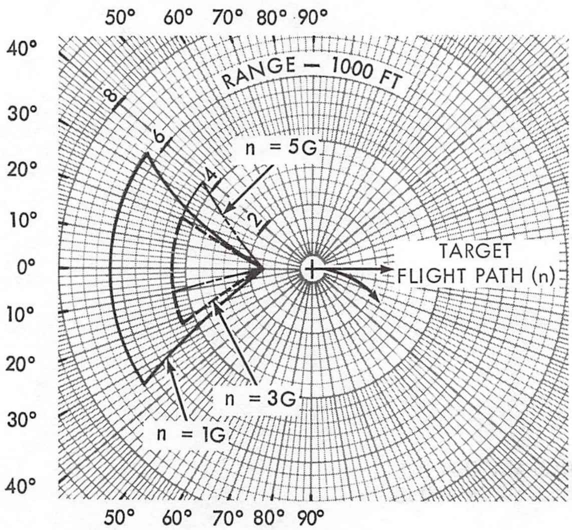
AIM-9B/B-1 LAUNCH ENVELOPES

ALTITUDE – 5,000 FEET

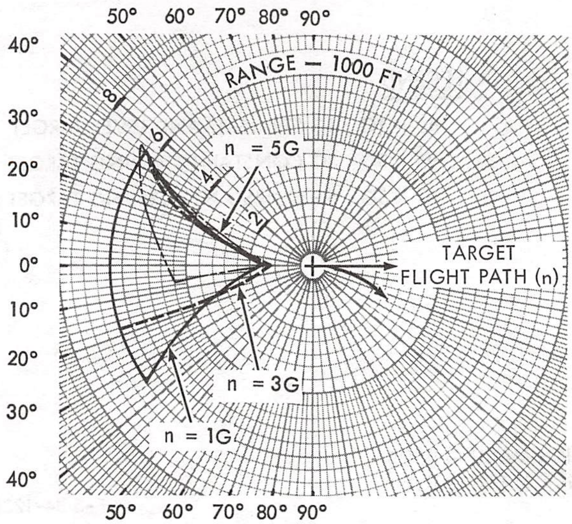
(HORIZONTAL PLANE)



LAUNCH MACH — 0.8
TARGET MACH — 0.95



LAUNCH MACH — 0.8
TARGET MACH — 0.8



LAUNCH MACH — 0.95
TARGET MACH — 0.8

LEGEND

n = 1G	1G STRAIGHT AND LEVEL TARGET
n = 3G	3G CONSTANT TURNING TARGET
n = 5G	5G CONSTANT TURNING TARGET

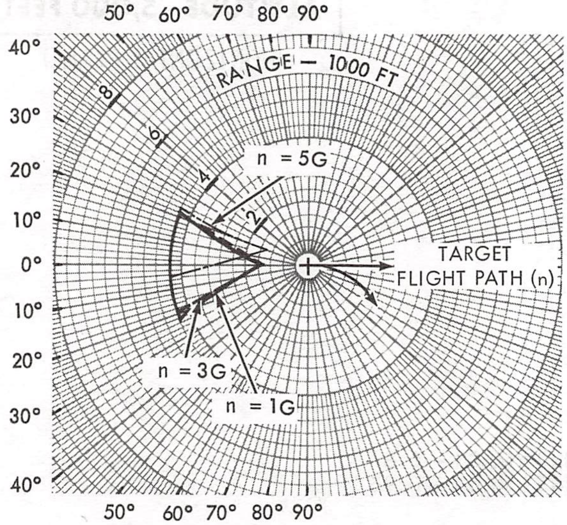
F-5 34-123(1)B

Figure 6-16. (Sheet 1)

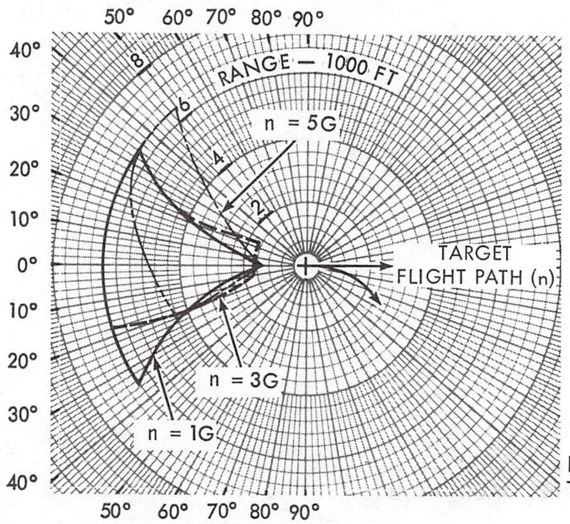
AIM-9B/B-1 LAUNCH ENVELOPES

ALTITUDE–10,000 FEET

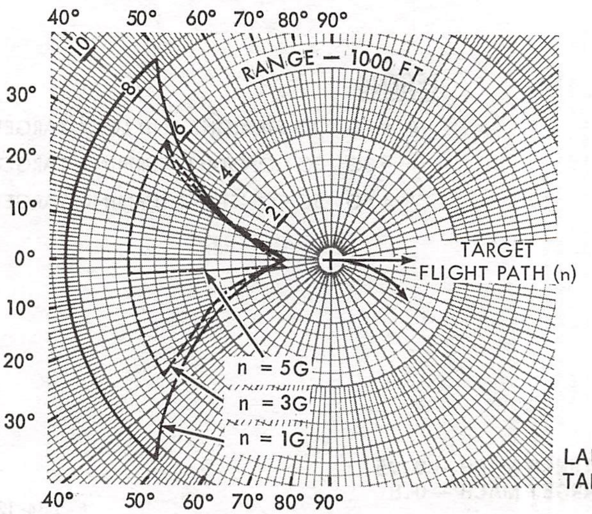
(HORIZONTAL PLANE)



LAUNCH MACH — 0.8
TARGET MACH — 0.95



LAUNCH MACH — 0.8
TARGET MACH — 0.8



LAUNCH MACH — 0.95
TARGET MACH — 0.8

LEGEND

n = 1G 1G STRAIGHT AND LEVEL TARGET
n = 3G 3G CONSTANT TURNING TARGET
n = 5G 5G CONSTANT TURNING TARGET

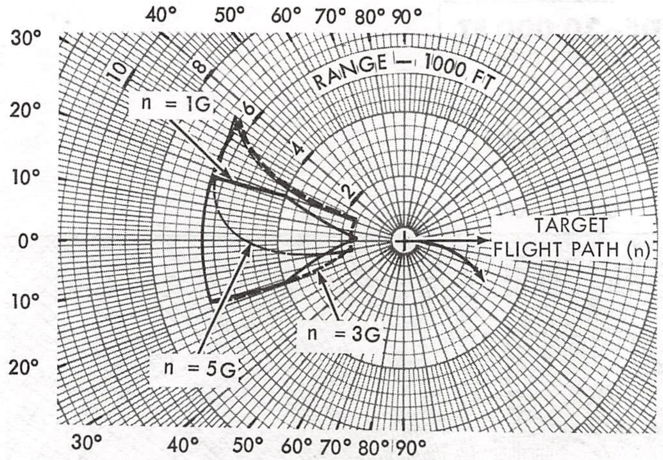
F-5 34-123(2)B

Figure 6-16. (Sheet 2)

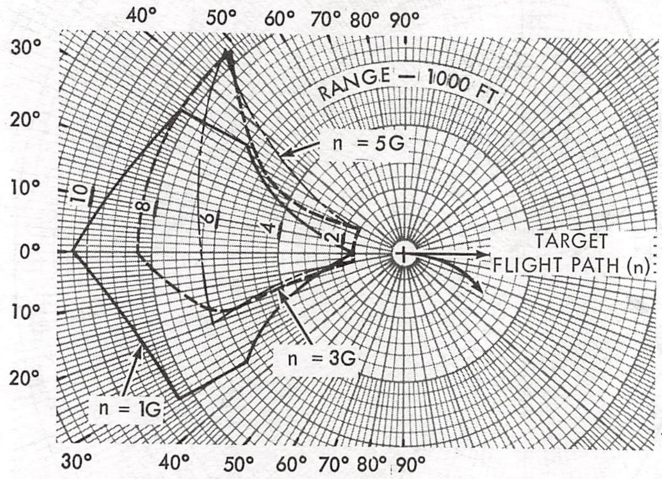
AIM-9B/B-1 LAUNCH ENVELOPES

ALTITUDE—20,000 FEET

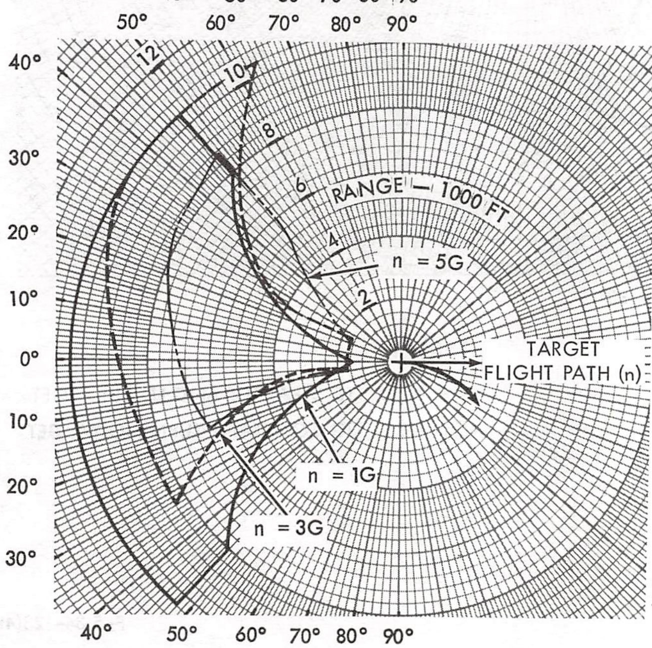
(HORIZONTAL PLANE)



LAUNCH MACH — 0.8
TARGET MACH — 0.95



LAUNCH MACH — 0.8
TARGET MACH — 0.8



LAUNCH MACH — 0.95
TARGET MACH — 0.8

LEGEND

n = 1G 1G STRAIGHT AND LEVEL TARGET
n = 3G 3G CONSTANT TURNING TARGET
n = 5G 5G CONSTANT TURNING TARGET

F-5 34-123(3)B

Figure 6-16. (Sheet 3)

AIM-9B/B-1 LAUNCH ENVELOPES

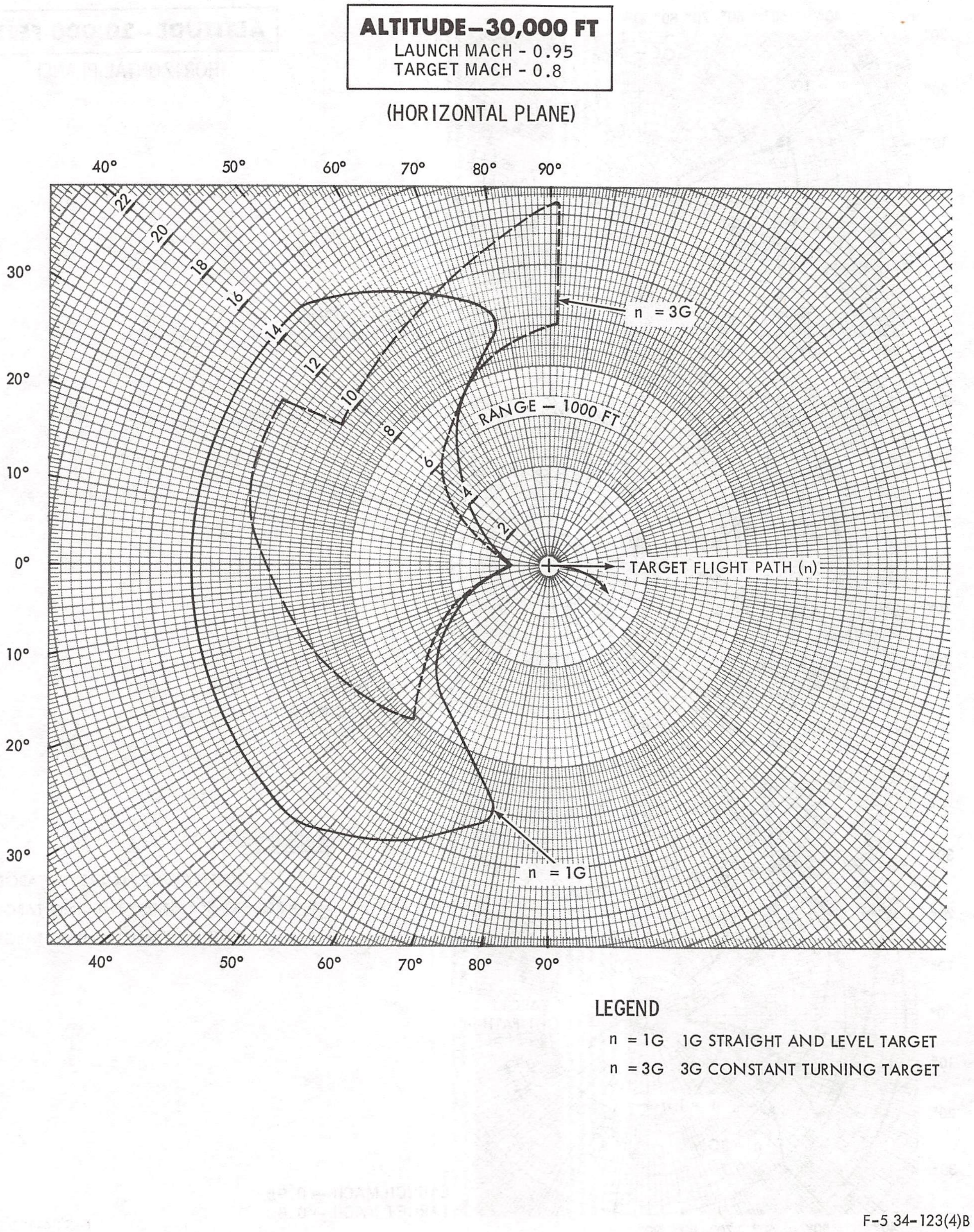
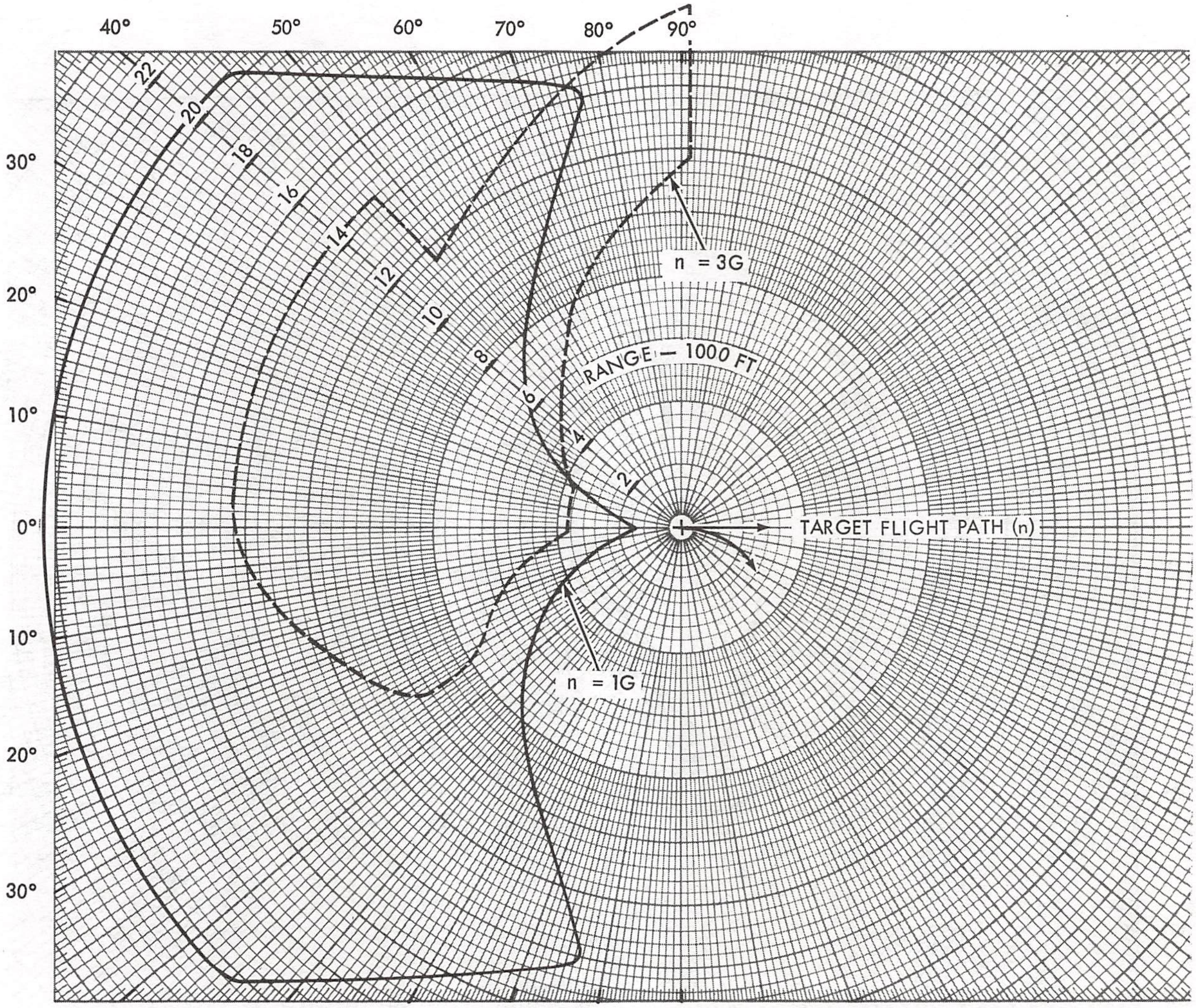


Figure 6-16. (Sheet 4)

AIM-9B/B-1 LAUNCH ENVELOPES

ALTITUDE—40,000 FEET
LAUNCH MACH — 0.95
TARGET MACH — 0.8

(HORIZONTAL PLANE)



LEGEND

n = 1G 1G STRAIGHT AND LEVEL TARGET

n = 3G 3G CONSTANT TURNING TARGET

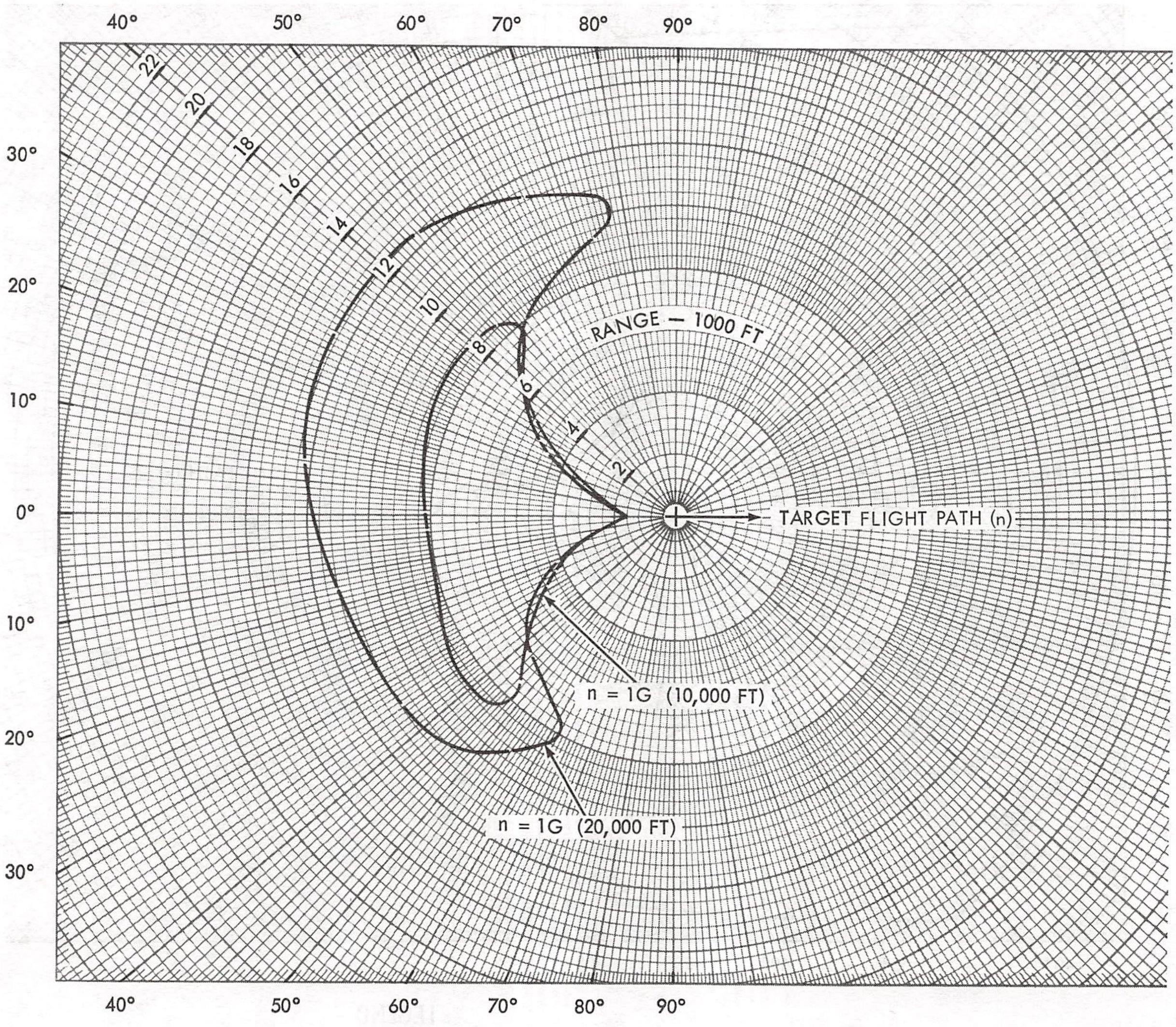
F-5 34-123(5)B

Figure 6-16. (Sheet 5)

AIM-9B/B-1 LAUNCH ENVELOPES

ALTITUDES—10,000 AND 20,000 FEET
LAUNCH MACH — 0.95
TARGET MACH — 0.8

(VERTICAL PLANE)



LEGEND
n = 1G 1G STRAIGHT AND LEVEL TARGET

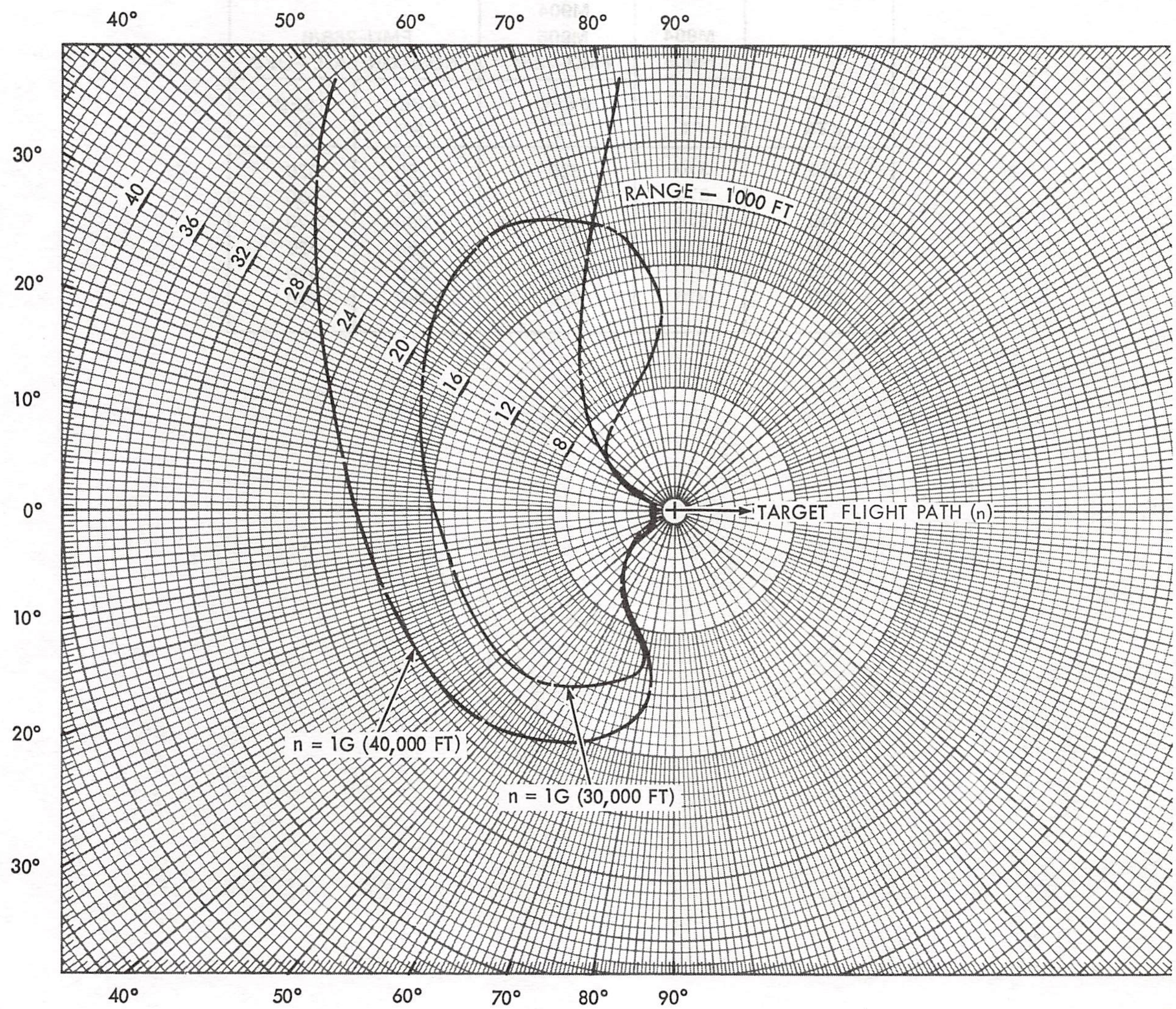
F-5 34-123(6)C

Figure 6-16. (Sheet 6)

AIM-9B/B-1 LAUNCH ENVELOPES

ALTITUDES – 30,000 AND 40,000 FEET
LAUNCH MACH - 0.95
TARGET MACH - 0.8

(VERTICAL PLANE)



LEGEND

n = 1G 1G STRAIGHT AND LEVEL TARGET

F-5 34-123(7)B

Figure 6-16. (Sheet 7)

Table 6-1.

FUZE ARMING — LEVEL RELEASE

MINIMUM RELEASE ALTITUDE OR VERTICAL DROP
REQUIRED FOR
GENERAL PURPOSE, LOW DRAG, BOMB FUZE ARMING

RELEASE	ARMING DELAY SETTING			
	M904 M905	M904 M905 FMU-72/B	FMU-26B/B NOSE OR TAIL FUZE	
TAS KTS	4 SEC FT	6 SEC FT	4 SEC FT	6 SEC FT
360	370	830	290	630
400	370	830	290	630
440	370	830	290	620
480	370	830	290	620
520	370	820	290	620
560	370	820	290	620

Table 6-2.

FUZE ARMING – DIVE RELEASE

MINIMUM RELEASE ALTITUDE OR VERTICAL DROP
REQUIRED FOR
GENERAL PURPOSE, LOW DRAG, BOMB FUZE ARMING

RELEASE		ARMING DELAY SETTING			
		M904 M905	M904 M905 FMU-72/B	FMU-26B/B NOSE OR TAIL FUZE	
TAS KTS	DIVE ANGLE DEG	4 SEC FT	6 SEC FT	4 SEC FT	6 SEC FT
360	15	1170	2020	950	1590
360	20	1410	2380	1170	1910
360	25	1640	2720	1370	2210
360	30	1860	3050	1570	2500
360	35	2070	3360	1760	2770
360	40	2270	3650	1940	3030
360	45	2450	3930	2100	3270
360	50	2620	4170	2250	3490
360	55	2730	4350	2390	3690
360	60	2870	4550	2510	3860
400	15	1250	2140	1020	1700
400	20	1520	2540	1260	2050
400	25	1780	2920	1490	2380
400	30	2020	3280	1710	2700
400	35	2250	3630	1920	3010
400	40	2470	3960	2120	3290
400	45	2670	4260	2300	3560
400	50	2860	4530	2470	3800
400	55	2990	4730	2620	4020
400	60	3140	4950	2750	4220
440	15	1340	2260	1100	1810
440	20	1630	2700	1360	2180
440	25	1910	3120	1610	2550
440	30	2180	3520	1850	2900
440	35	2430	3900	2080	3240
440	40	2670	4250	2300	3550
440	45	2900	4590	2500	3850
440	50	3100	4890	2680	4110
440	55	3250	5140	2850	4360
440	60	3410	5360	2990	4570
480	15	1420	2380	1170	1910
480	20	1730	2860	1450	2320
480	25	2040	3310	1730	2720
480	30	2340	3750	1990	3110
480	35	2610	4160	2240	3470
480	40	2880	4550	2480	3810
480	45	3120	4910	2710	4130
480	50	3340	5240	2890	4430
480	55	3510	5490	3070	4690
480	60	3690	5750	3230	4920
520	15	1500	2500	1240	2010
520	20	1840	3010	1550	2460
520	25	2170	3510	1850	2900
520	30	2500	3980	2130	3310
520	35	2790	4430	2400	3700
520	40	3080	4850	2650	4160
520	45	3340	5230	2890	4420
520	50	3580	5590	3110	4730
520	55	3760	5860	3300	5010
520	60	3960	6140	3470	5260
560	15	1580	2610	1310	2110
560	20	1940	3160	1640	2590
560	25	2300	3690	1960	3050
560	30	2640	4190	2260	3500
560	35	2960	4670	2550	3920
560	40	3270	5110	2830	4310
560	45	3550	5520	2080	4680
560	50	3810	5900	3310	5010
560	55	4000	6190	3520	5310
560	60	4210	6490	3700	5580

Table 6-3.

SAFE ESCAPE — LEVEL RELEASE

MINIMUM RELEASE ALTITUDE FOR FRAGMENTATION ENVELOPE CLEARANCE – FEET

RELEASE TAS KTS	MK-82 BOMB FT	MK-83 BOMB FT	MK-84 BOMB FT	M117 BOMB FT
4.0G PULLUP RECOVERY*				
360	400	500	600	500
400	400	500	600	500
440	400	500	500	500
480	400	400	500	400
520	400	400	500	300
560	300	400	500	300
STRAIGHT AND LEVEL CONSTANT SPEED RECOVERY				
360	1100	1300	1700	1200
400	1000	1200	1600	1000
440	1000	1100	1500	900
480	900	1000	1400	800
520	800	900	1400	800
560	700	800	1300	700

*THESE MINIMUM RELEASE ALTITUDES ASSUME THAT A 4.0G MIL POWER PULLUP IS ATTAINED 2.0 SEC AFTER RELEASE. THE G IS MAINTAINED UNTIL A 20° – 30° CLIMB OUT ANGLE IS ATTAINED.

Table 6-4.

SAFE ESCAPE — DIVE RELEASE

MINIMUM RELEASE ALTITUDE*
REQUIRED FOR
SAFE ESCAPE AND GROUND CLEARANCE DURING RECOVERY

RELEASE		ALTITUDE LOST DURING PULLOUT FT	MINIMUM REL ALT FOR FRAGMENTATION ENVELOPE CLEARANCE			
TAS KTS	DIVE ANGLE DEG		MK-82 BOMB FT	MK-83 BOMB FT	MK-84 BOMB FT	M117 BOMB FT
360	15	280	1000	1200	1700	1200
360	20	430	1300	1400	2000	1400
360	25	610	1500	1600	2200	1600
360	30	830	1700	1800	2400	1800
360	35	1070	1900	2000	2600	2000
360	40	1330	2000	2200	2800	2200
360	45	1630	2200	2400	3000	2400
360	50	1950	2300	2600	3100	2500
400	15	320	1100	1200	1700	1200
400	20	510	1300	1500	1900	1500
400	25	730	1600	1700	2200	1700
400	30	990	1800	2000	2400	1900
400	35	1280	2000	2200	2600	2100
400	40	1600	2100	2400	2900	2300
400	45	1960	2300	2600	3100	2500
400	50	2350	2500	2800	3300	2600
440	15	380	1100	1300	1600	1200
440	20	590	1400	1500	1900	1500
440	25	860	1600	1800	2200	1700
440	30	1160	1800	2100	2400	1900
440	35	1510	2000	2300	2700	2100
440	40	1900	2200	2500	2900	2300
440	45	2330	2500	2700	3100	2500
440	50	2790	2800	2900	3400	2800
480	15	430	1200	1300	1600	1200
480	20	680	1400	1600	1900	1500
480	25	990	1600	1900	2200	1700
480	30	1350	1800	2100	2500	2000
480	35	1750	2100	2400	2800	2200
480	40	2210	2400	2600	3000	2400
480	45	2720	2800	3000	3200	2800
480	50	3270	3300	3300	3500	3300
520	15	490	1200	1300	1600	1200
520	20	780	1500	1600	1900	1500
520	25	1130	1700	1900	2200	1800
520	30	1540	2000	2200	2600	2000
520	35	2020	2200	2500	2800	2200
520	40	2550	2600	2700	3100	2600
520	45	3130	3200	3300	3400	3200
520	50	3770	3800	3800	3900	3800
560	15	550	1200	1300	1600	1200
560	20	880	1500	1700	2000	1500
560	25	1280	1800	2000	2300	1800
560	30	1750	2100	2200	2600	2100
560	35	2300	2400	2600	2900	2400
560	40	2900	3000	3000	3200	3000
560	45	3580	3600	3600	3700	3600
560	50	4310	4400	4400	4400	4400

*THESE MINIMUM RELEASE ALTITUDES ARE BASED ON A 4.0G RECOVERY AND ASSUME THAT THE 4.0G IS ATTAINED WITHIN 2.0 SEC AFTER RELEASE.

Table 6-5.

SAFE ESCAPE - RIPPLE RELEASE

MINIMUM RELEASE ALTITUDE*
REQUIRED FOR
SAFE ESCAPE AND GROUND CLEARANCE DURING RECOVERY

MK-82 GP – 5 BOMB RIPPLE

RELEASE TAS	RELEASE ANGLE	ALTITUDE** LOST DURING PULLOUT	MINIMUM REL ALT FOR FRAGMENTATION ENVELOPE CLEARANCE .06 SEC REL INT	.10 SEC REL INT	.14 SEC REL INT
KTS	DEG	FT	FT	FT	FT
360	0	0	450	450	500
	10	215	850	900	950
	15	376	1050	1100	1200
	20	566	1350	1350	1400
	30	1038	1750	1800	1850
	45	1950	2300	2400	2500
	60	3104	2900	3000	3100
400	0	0	400	400	450
	10	248	850	900	950
	15	435	1150	1200	1250
	20	659	1350	1400	1450
	30	1217	1850	1900	1950
	45	2311	2400	2500	2600
	60	3709	3500	3650	3700
440	0	0	350	350	400
	10	282	850	900	950
	15	497	1150	1200	1250
	20	756	1400	1450	1500
	30	1408	1900	1950	2000
	45	2704	2550	2600	2700
	60	4370	4200	4300	4400
480	0	0	350	350	400
	10	318	900	950	1000
	15	561	1200	1250	1300
	20	858	1450	1500	1550
	30	1610	1950	2100	2150
	45	3124	2950	3100	3200
	60	5070	4900	5000	5100
520	0	0	350	350	400
	10	356	900	950	1000
	15	630	1250	1300	1350
	20	966	1550	1600	1650
	30	1822	2100	2150	2200
	45	3556	3350	3500	3600
	60	5747	5600	5700	5800
560	0	0	350	350	350
	10	394	950	1000	1050
	15	701	1250	1300	1350
	20	1075	1550	1600	1650
	30	2035	2150	2200	2300
	45	3956	3750	3900	4000
	60	6317	6000	6350	6400

*THESE MINIMUM RELEASE ALTITUDES ARE BASED ON A 4.0 G RECOVERY INITIATED AT RELEASE OF LAST BOMB AND ATTAINED WITHIN 2.0 SECONDS THEREAFTER.

**THIS ALTITUDE IS FROM RELEASE OF FIRST BOMB FOR THE .14 SECOND RELEASE INTERVAL.

Table 6-6.

FUZE ARMING AND SAFE ESCAPE MK-82 SNAKEYE 1

RELEASE TAS KTS	RELEASE DIVE ANGLE DEG	ALT LOST DURING PULLOUT (FT)	SAFE ESCAPE * MIN REL ALT FOR FRAG ENVELOPE CLEARANCE (FT)	FUZE ARMING ** MIN REL ALT FOR M904E2 FUZE WITH 2-SEC DELAY (FT)	FUZE ARMING ** MIN REL ALT FOR FMU-54/B FUZE WITH 2.5-SEC DELAY (FT)
360	0	--	150	105	125
	10	150	400	310	350
	20	430	600	**	**
	30	830	1000	**	**
400	0	--	120	105	125
	10	170	400	325	365
	20	510	700	**	**
	30	990	1100	**	**
440	0	--	115	100	120
	10	200	400	340	380
	20	590	700	**	**
	30	1160	1300	**	**
480	0	--	100	100	120
	10	230	400	355	395
	20	680	800	**	**
	30	1350	1500	**	**
520	0	--	80	95	120
	10	260	400	370	410
	20	780	900	**	**
	30	1540	1700	**	**
560	0	--	55	95	115
	10	290	400	385	425
	20	880	1000	**	**
	30	1750	1900	**	**

* FOR THE DIVE RELEASES, THE SAFE ESCAPE COMPUTATIONS ASSUME A 4.0-G RECOVERY.

** FOR THE 20- AND 30-DEGREE DIVE RELEASE CONDITIONS LISTED, THE BOMB TIME OF FLIGHT IS MORE THAN ADEQUATE TO ASSURE FUZE ARMING FOR THE M904 FUZE WITH A 2.0-SEC ARMING DELAY SETTING AND THE FMU-54/B FUZE WITH A 2.5-SEC ARMING DELAY SETTING.

F-5E 34-133

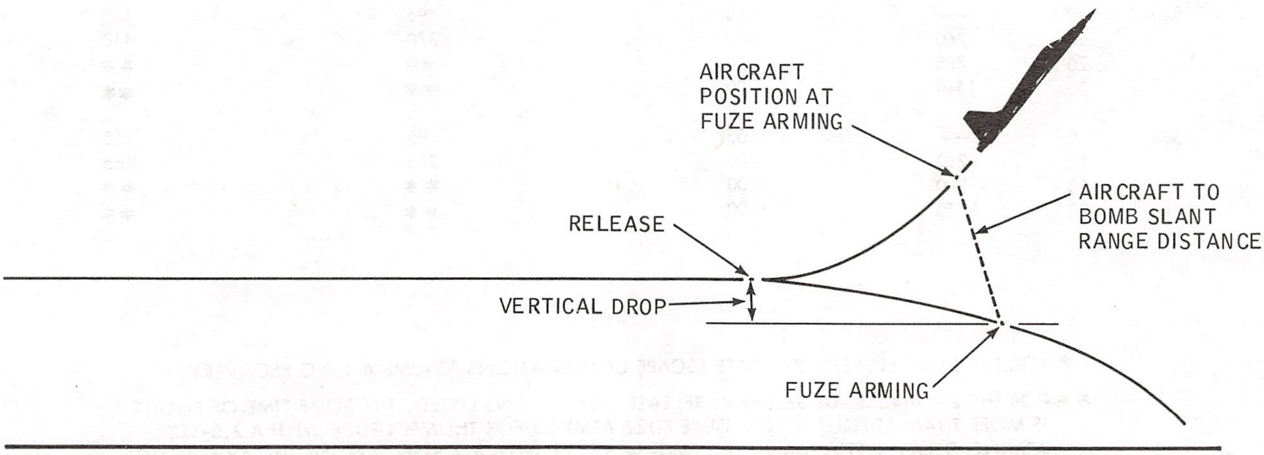
Table 6-7. (Sheet 1)

FUZE SAFE ARMING TIME

LOW ALTITUDE LEVEL RELEASE

4.0G PULLUP OR 4.0G-60° BANKED TURN ESCAPE MANEUVER

REL TAS KTS	SAFE ARMING TIME SEC	VERTICAL DROP TO FUZE ARMING FT	AIRCRAFT TO BOMB SLANT RANGE DISTANCE AT FUZE ARMING FT
MK-82, M117			
400	4.8	400	1080
500	4.2	300	800
600	4.2	300	800
MK-83			
400	4.9	400	1090
500	4.4	350	900
600	4.2	300	800
MK-84			
400	5.7	600	1540
500	5.2	500	1320
600	5.2	500	1330



WARNING

THE VALUES LISTED ARE APPLICABLE FOR USE WITH SINGLES, PARTS, OR SALVO TYPE RELEASES ONLY AND ASSUME THAT THE AIRCRAFT ATTAINS THE 4.0G ESCAPE MANEUVER ACCELERATION WITHIN 2 SECONDS AFTER RELEASE. IF A LOW ALTITUDE LEVEL RIPPLE RELEASE IS TO BE ACCOMPLISHED WHERE THE AIRCRAFT IS HELD STRAIGHT AND LEVEL THROUGHOUT THE ENTIRE RIPPLE RELEASE TIME CYCLE, THE SAFE ARMING TIMES LISTED FOR A LEVEL RELEASE — LEVEL CONSTANT SPEED ESCAPE MANEUVER SHOULD BE USED AND MINIMUM RELEASE ALTITUDES SELECTED ACCORDINGLY.

F-5 34-134(1)B

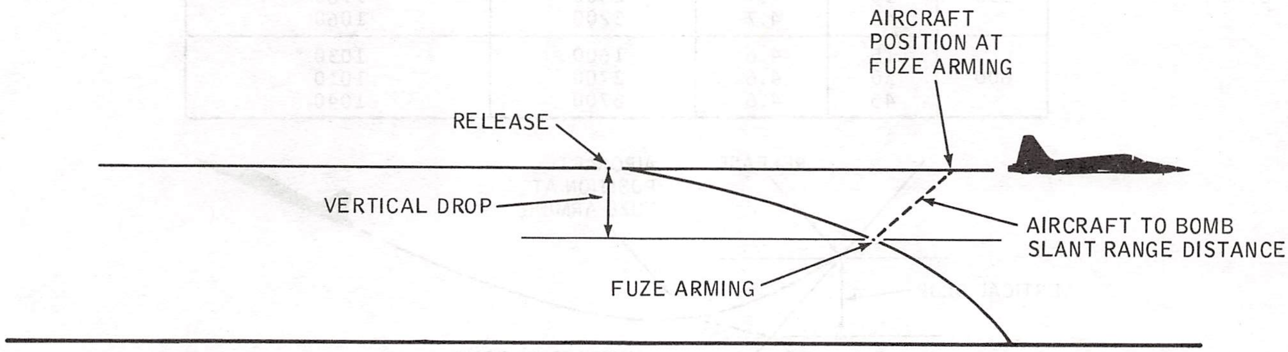
Table 6-7. (Sheet 2)

FUZE SAFE ARMING TIME

LOW ALTITUDE LEVEL RELEASE

LEVEL CONSTANT SPEED ESCAPE MANEUVER

REL TAS KTS	SAFE ARMING TIME SEC	VERTICAL DROP TO FUZE ARMING FT	AIRCRAFT TO BOMB SLANT RANGE DISTANCE AT FUZE ARMING FT
MK-82, M117			
400	7.8	1000	1000
500	6.9	800	810
600	6.0	600	630
MK-83			
400	8.5	1200	1200
500	7.4	900	910
600	6.0	600	610
MK-84			
400	9.6	1600	1600
500	8.9	1400	1410
600	8.3	1200	1210



Note

THE VALUES LISTED ARE APPLICABLE FOR USE WITH SINGLE, PAIRS, OR TIMED RIPPLE RELEASE. A STRAIGHT AND LEVEL, CONSTANT SPEED ESCAPE MANEUVER IS ASSUMED AFTER RELEASE.

F-5 34-134(4)

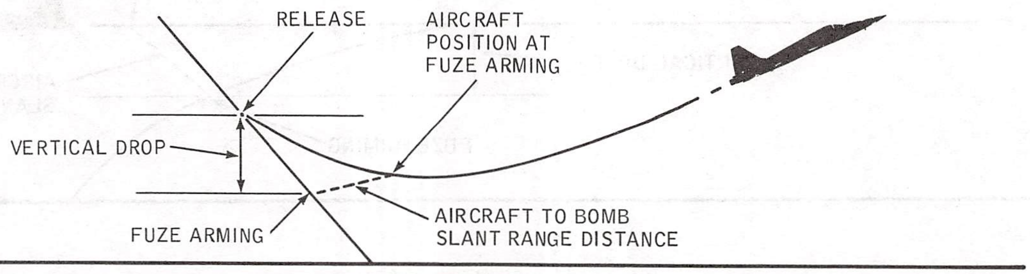
Table 6-7. (Sheet 3)

FUZE SAFE ARMING TIME

LOW TO MEDIUM ALTITUDE DIVE RELEASE

4.0G PULLUP TO 20°-30° CLIMB
ESCAPE MANEUVER

RELEASE TAS KTS	RELEASE DIVE ANGLE DEG	SAFE ARMING TIME SEC	VERTICAL DROP TO FUZE ARMING FT	AIRCRAFT TO BOMB SLANT RANGE DISTANCE AT FUZE ARMING FT
		MK-82, M117		
400	15	4.7	1200	1050
	30	4.7	1900	1030
	45	4.7	2600	990
500	15	4.2	1200	790
	30	4.2	2000	760
	45	4.2	2800	740
600	15	3.8	1200	620
	30	3.8	2100	610
	45	3.8	2950	630
		MK-83		
400	15	4.8	1250	1100
	30	4.8	2000	1080
	45	4.7	2600	990
500	15	4.5	1300	920
	30	4.5	2200	910
	45	4.5	3000	890
600	15	4.1	1400	810
	30	4.1	2300	730
	45	4.1	3200	750
		MK-84		
400	15	5.2	1400	1340
	30	5.1	2200	1280
	45	5.1	2900	1260
500	15	4.9	1500	1170
	30	4.9	2500	1160
	45	4.7	3200	1060
600	15	4.6	1600	1030
	30	4.6	2700	1010
	45	4.6	3700	1040



WARNING

THE VALUES LISTED ARE APPLICABLE FOR USE WITH SINGLES, PAIRS, OR SALVO TYPE RELEASES ONLY AND ASSUME THAT THE AIRCRAFT ATTAINS THE 4.0G ESCAPE MANEUVER ACCELERATION WITHIN 2 SECONDS AFTER RELEASE. FOR TIMED RIPPLE RELEASES, WHERE THE AIRCRAFT REMAINS IN A FIXED DIVE ANGLE FLIGHT CONDITION UNTIL THE LAST BOMB IS RELEASED, THE SAFE ARMING TIME SHOULD BE INCREASED BY AN AMOUNT EQUAL TO THE RIPPLE RELEASE TIME CYCLE.

F-5 34-134(2)A

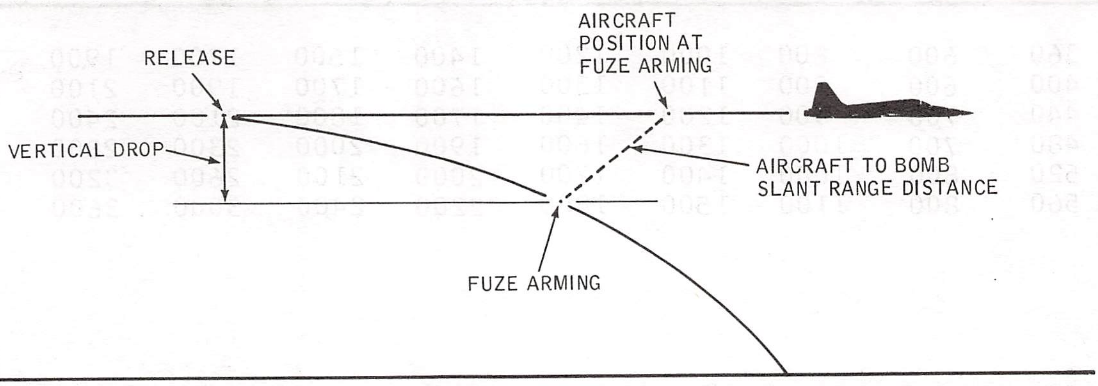
Table 6-7. (Sheet 4)

FUZE SAFE ARMING TIME

HIGH ALTITUDE LEVEL RELEASE

LEVEL ESCAPE MANEUVER

RELEASE		SAFE ARMING TIME SEC	VERTICAL DROP TO FUZE ARMING FT	AIRCRAFT TO BOMB SLANT RANGE DISTANCE AT FUZE ARMING FT
ALTITUDE ABOVE TARGET FT	TAS KTS			
MK-82, M117				
10,000 OR LOWER	400	8	1060	1070
	500	7	820	830
	600	6	600	630
20,000	400	11	1980	1990
	500	9	1340	1350
	600	8	1050	1090
30,000	400	13	2780	2780
	500	11	1980	1990
	600	10	1640	1680
MK-83				
10,000 OR LOWER	400	9	1340	1340
	500	8	1060	1060
	600	7	830	850
20,000	400	12	2360	2360
	500	11	1980	1980
	600	10	1630	1650
30,000	400	14	3190	3190
	500	13	2760	2760
	600	12	2330	2350
MK-84				
10,000 OR LOWER	400	10	1740	1740
	500	9	1430	1430
	600	9	1420	1430
20,000	400	13	2890	2890
	500	12	2470	2470
	600	11	2080	2090
30,000	400	15	3810	3810
	500	14	3330	3330
	600	13	2860	2870



WARNING

THE LOWER AIR DENSITY AT HIGH ALTITUDES IS RESPONSIBLE FOR THE INCREASE IN REQUIRED SAFE ARMING TIME FOR HIGH ALTITUDE RELEASES. A LINEAR INTERPOLATION BETWEEN THE SAFE ARMING TIME VALUES LISTED FOR 10,000, 20,000, AND 30,000 FEET MAY BE ACCOMPLISHED TO DETERMINE THE REQUIRED SAFE ARMING TIME VALUE FOR INTERMEDIATE ALTITUDES.

F-5 34-134(3)A

Table 6-8.

2.75-INCH FFAR MINIMUM LAUNCH ALTITUDE

MINIMUM LAUNCH ALTITUDES REQUIRED FOR SAFE ESCAPE FROM FRAGMENTS

4.0G RECOVERY TO 10 DEG CLIMB

2.75 FFAR W/MK1 WARHEAD

LAUNCH KTAS	LAUNCH DIVE ANGLE - DEG								
	10	15	20	25	30	35	40	45	50
360	600	700	900	1200	1400	1500	1700	1900	2100
400	600	800	1000	1300	1500	1700	1900	2200	2400
440	700	900	1200	1400	1700	1900	2100	2400	2800
480	700	1000	1200	1500	1800	2000	2300	2800	3300
520	700	1000	1300	1700	2000	2200	2600	3200	3800
560	800	1100	1400	1800	2100	2400	3000	3600	4400

2.75 FFAR W/M151 WARHEAD

LAUNCH KTAS	LAUNCH DIVE ANGLE – DEG								
	10	15	20	25	30	35	40	45	50
360	600	800	1000	1200	1400	1500	1700	1900	2100
400	600	800	1100	1300	1600	1700	1900	2100	2400
440	700	900	1200	1400	1700	1800	2100	2400	2800
480	700	1000	1300	1600	1900	2000	2300	2800	3300
520	800	1000	1400	1700	2000	2100	2600	3200	3800
560	800	1100	1500	1800	2200	2400	3000	3600	4400

F-5E 34-132 B

Table 6-9. (Sheet 1)

RELEASE ENVELOPE FOR CBU-24B/B, -49B/B, -52B/B, -58/B, -58A/B, -71/B & -71A/B WITH FMU-56D/B FUZE

SINGLE RELEASE

RELEASE ALTITUDE – FEET

REL ANG-DEG	15			30			45		
REL VEL-KTAS	400	500	600	400	500	600	400	500	600
	HEIGHT OF BURST = 1100 FT								
MIN ALT	–	–	3000	–	–	–	–	–	–
MAX ALT	–	–	3500	–	–	–	–	–	–
	HEIGHT OF BURST = 1500 FT								
MIN ALT	3000	3500	3500	–	4000	4000	–	–	–
MAX ALT	4000	6500	9000	–	5000	7500	–	–	–
	HEIGHT OF BURST = 1800 FT								
MIN ALT	3500	3500	3500	4000	4500	4500	–	5000	5000
MAX ALT	12000	20000	20000	9000	19000	20000	–	13000	19000
	HEIGHT OF BURST = 2000 FT								
MIN ALT	3500	4000	4000	4000	4500	4500	4500	5000	5500
MAX ALT	20000	20000	20000	20000	20000	20000	20000	20000	20000
	HEIGHT OF BURST = 2200 FT								
MIN ALT	4000	4000	4000	4500	4500	5000	5000	5500	5500
MAX ALT	20000	20000	20000	20000	20000	20000	20000	20000	20000
	HEIGHT OF BURST = 2500 FT								
MIN ALT	4000	4500	4500	4500	5000	5000	5000	5500	6000
MAX ALT	20000	20000	20000	20000	20000	20000	20000	20000	20000
	HEIGHT OF BURST = 3000 FT								
MIN ALT	4500	5000	5000	5000	5500	5500	5500	6000	6500
MAX ALT	20000	20000	20000	20000	20000	20000	20000	20000	20000

F-5 34-94(1) A

Table 6-9. (Sheet 2)

RELEASE ENVELOPE FOR CBU-24B/B, -49B/B, -52B/B, -58/B, -58A/B, -71/B & -71A/B WITH FMU-110/B FUZE

SINGLE RELEASE

RELEASE ALTITUDE — FEET

REL ANG-DEG	15			30			45		
REL VEL-KTAS	400	500	600	400	500	600	400	500	600
	HEIGHT OF BURST = 900 FT								
MIN ALT	—	—	1800	—	—	—	—	—	—
MAX ALT	—	—	2200	—	—	—	—	—	—
	HEIGHT OF BURST = 1200 FT								
MIN ALT	1900	2000	2500	—	—	—	—	—	—
MAX ALT	2000	3000	4500	—	—	—	—	—	—
	HEIGHT OF BURST = 1500 FT								
MIN ALT	2500	2500	2500	—	3000	5000	—	—	4000
MAX ALT	4000	6500	8000	—	5000	7500	—	—	4000
	HEIGHT OF BURST = 1800 FT								
MIN ALT	2500	3000	3000	3000	3500	3500	—	4000	4000
MAX ALT	12000	20000	20000	9000	19000	20000	—	13000	19000
	HEIGHT OF BURST = 2200 FT								
MIN ALT	2900	3000	3500	3500	4000	4000	4000	4500	4500
MAX ALT	20000	20000	20000	20000	20000	20000	20000	20000	20000
	HEIGHT OF BURST = 2600 FT								
MIN ALT	3500	3500	3500	4000	4000	4500	4500	4500	5000
MAX ALT	20000	20000	20000	20000	20000	20000	20000	20000	20000
	HEIGHT OF BURST = 3000 FT								
MIN ALT	4000	4000	4000	4500	4500	5000	5000	5000	5500
MAX ALT	20000	20000	20000	20000	20000	20000	20000	20000	20000

F-5 34-94(2)

Table 6-10. (Sheet 1)

LEVEL BOMBING TABLES
FOR
MK-82 500-LB GP BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS DRIFT	CRAB
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KNOT	
0	400	360	2809	4.68	2837	15	144	.41	-.39	7.9	.1
		400	3119	4.68	3144	14	130	.33	-.32	7.9	.1
		440	3428	4.68	3451	12	118	.28	-.26	7.9	.1
		480	3737	4.68	3758	11	108	.23	-.22	7.9	.1
		520	4045	4.69	4065	11	100	.20	-.19	7.9	.1
		560	4352	4.69	4370	10	93	.17	-.17	7.9	.1
0	500	360	3168	5.27	3200	17	159	.45	-.43	8.9	.1
		400	3509	5.27	3544	15	143	.37	-.35	8.9	.1
		440	3856	5.27	3888	14	131	.31	-.29	8.9	.1
		480	4203	5.28	4232	13	120	.26	-.25	8.9	.2
		520	4549	5.28	4576	12	111	.22	-.21	8.9	.2
		560	4894	5.28	4919	11	103	.19	-.18	8.9	.2
0	600	360	3478	5.81	3529	18	173	.49	-.47	9.8	.1
		400	3860	5.81	3907	17	156	.40	-.38	9.8	.2
		440	4242	5.81	4284	15	142	.33	-.32	9.8	.2
		480	4623	5.82	4662	14	130	.28	-.27	9.8	.2
		520	5004	5.82	5040	13	121	.24	-.23	9.8	.2
		560	5382	5.82	5416	12	112	.21	-.20	9.8	.2
0	700	360	3769	6.30	3834	20	185	.53	-.50	10.6	.2
		400	4183	6.30	4242	18	167	.43	-.41	10.6	.2
		440	4597	6.31	4650	16	153	.36	-.34	10.6	.2
		480	5009	6.31	5058	15	140	.30	-.29	10.7	.2
		520	5421	6.31	5466	14	130	.26	-.25	10.7	.2
		560	5831	6.32	5872	13	121	.22	-.21	10.7	.3
0	800	360	4040	6.76	4118	21	197	.56	-.53	11.4	.2
		400	4484	6.76	4554	19	178	.46	-.43	11.4	.2
		440	4926	6.77	4991	17	162	.38	-.36	11.4	.2
		480	5368	6.77	5427	16	149	.32	-.31	11.4	.2
		520	5809	6.78	5864	15	138	.27	-.26	11.4	.3
		560	6247	6.78	6298	14	128	.24	-.23	11.4	.3
0	900	360	4294	7.19	4387	22	208	.59	-.56	12.1	.2
		400	4765	7.20	4850	20	188	.48	-.46	12.1	.2
		440	5236	7.20	5312	18	171	.40	-.38	12.2	.3
		480	5705	7.21	5775	17	158	.34	-.32	12.2	.3
		520	6173	7.21	6238	16	146	.29	-.28	12.2	.3
		560	6638	7.22	6698	15	136	.25	-.24	12.2	.3
0	1000	360	4534	7.60	4643	23	219	.62	-.58	12.8	.2
		400	5031	7.61	5130	21	198	.50	-.48	12.8	.3
		440	5527	7.61	5617	19	180	.42	-.40	12.8	.3
		480	6022	7.62	6105	18	166	.36	-.34	12.9	.3
		520	6516	7.62	6592	17	153	.30	-.29	12.9	.3
		560	7006	7.63	7077	16	143	.26	-.25	12.9	.4
0	1100	400	5284	8.00	5397	22	207	.53	-.50	13.5	.3
		440	5805	8.00	5908	20	188	.44	-.42	13.5	.3
		480	6324	8.01	6419	19	173	.37	-.36	13.5	.3
		520	6842	8.01	6930	17	160	.32	-.31	13.5	.4
		560	7356	8.02	7438	16	149	.28	-.27	13.5	.4
0	1200	400	5525	8.37	5654	23	215	.55	-.52	14.1	.3
		440	6069	8.37	6186	21	196	.46	-.44	14.1	.3
		480	6612	8.38	6720	20	181	.39	-.37	14.1	.4
		520	7153	8.39	7253	18	167	.33	-.32	14.2	.4
		560	7690	8.40	7783	17	156	.29	-.28	14.2	.4
0	1300	440	6323	8.73	6455	22	204	.47	-.45	14.7	.4
		480	6888	8.74	7009	20	187	.40	-.38	14.8	.4
		520	7451	8.75	7563	19	174	.34	-.33	14.8	.4
		560	8010	8.76	8115	18	162	.30	-.29	14.8	.5

Table 6-10. (Sheet 2)

LEVEL BOMBING TABLES
FOR
MK-82 500-LB GP BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CRAB FT/KNOT
0	1400	440	6567	9.08	6714	23	211	.49	-.47	15.3	.4
		480	7153	9.09	7289	21	194	.42	-.40	15.3	.4
		520	7737	9.09	7863	20	180	.36	-.34	15.3	.5
		560	8317	9.10	8434	18	168	.31	-.30	15.4	.5
0	1500	480	7408	9.42	7559	22	201	.43	-.41	15.9	.5
		520	8013	9.43	8152	20	186	.37	-.35	15.9	.5
		560	8613	9.44	8743	19	173	.32	-.31	15.9	.5
0	2000	560	9959	10.97	10158	22	199	.37	-.35	18.5	.7

Table 6-10. (Sheet 3)

DIVE BOMBING TABLES
FOR
MK-82 500-LB GP BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT	MILS/KNOT	FT/KT
15	1000	360	2467	4.27	2662	28	126	1.05	-1.00	7.2
		400	2592	4.04	2778	26	109	.91	-.87	6.8
		440	2701	3.82	2880	25	95	.80	-.77	6.5
		480	2796	3.63	2969	23	84	.71	-.69	6.1
		520	2879	3.45	3048	23	74	.64	-.62	5.8
		560	2952	3.29	3117	22	67	.59	-.57	5.5
15	1500	360	3346	5.81	3667	31	161	1.13	-1.08	9.8
		400	3543	5.54	3847	29	140	.98	-.93	9.3
		440	3718	5.29	4009	28	123	.86	-.82	8.9
		480	3873	5.05	4153	26	109	.76	-.73	8.5
		520	4012	4.83	4283	25	97	.68	-.66	8.2
		560	4135	4.63	4399	24	87	.62	-.60	7.8
15	2000	360	4115	7.17	4575	35	192	1.19	-1.14	12.1
		400	4379	6.87	4814	32	168	1.03	-.98	11.6
		440	4617	6.59	5032	30	148	.90	-.87	11.1
		480	4832	6.32	5230	29	132	.80	-.77	10.7
		520	5027	6.08	5410	27	118	.72	-.69	10.3
		560	5201	5.85	5572	26	106	.65	-.63	9.9
15	2500	360	4806	8.40	5417	37	219	1.24	-1.19	14.2
		400	5133	8.08	5710	35	193	1.07	-1.03	13.6
		440	5432	7.78	5979	33	171	.94	-.90	13.1
		480	5704	7.49	6228	31	152	.83	-.80	12.6
		520	5952	7.22	6456	29	137	.75	-.72	12.2
		560	6177	6.97	6663	28	124	.68	-.65	11.8
15	3000	360	5438	9.53	6210	40	244	1.28	-1.23	16.1
		400	5825	9.20	6552	37	215	1.11	-1.07	15.5
		440	6181	8.88	6870	35	191	.97	-.94	15.0
		480	6508	8.58	7166	33	171	.86	-.83	14.5
		520	6808	8.29	7440	31	154	.77	-.75	14.0
		560	7081	8.03	7690	30	140	.70	-.68	13.5
15	3500	400	6467	10.24	7354	39	235	1.15	-1.10	17.3
		440	6878	9.91	7717	37	210	1.00	-.97	16.7
		480	7257	9.59	8057	35	188	.89	-.86	16.2
		520	7608	9.29	8374	33	170	.80	-.77	15.7
		560	7927	9.02	8665	31	155	.72	-.70	15.2
15	4000	440	7532	10.88	8528	38	227	1.03	-.99	18.4
		480	7961	10.55	8910	36	205	.92	-.88	17.8
		520	8360	10.24	9268	34	185	.82	-.79	17.3
		560	8724	9.96	9597	33	169	.74	-.72	16.8
15	4500	480	8627	11.46	9731	38	220	.94	-.91	19.3
		520	9073	11.14	10128	36	199	.84	-.81	18.8
		560	9478	10.86	10492	34	182	.76	-.74	18.3
15	5000	520	9751	12.01	10958	37	213	.86	-.83	20.3
		560	10197	11.72	11357	36	195	.78	-.76	19.8
15	5500	520	10399	12.84	11764	38	225	.88	-.85	21.7
		560	10883	12.55	12194	37	207	.80	-.77	21.2
20	1000	360	2048	3.64	2279	31	108	1.23	-1.17	6.1
		400	2129	3.41	2352	29	93	1.07	-1.03	5.8
		440	2197	3.20	2414	28	80	.95	-.92	5.4
		480	2255	3.01	2467	27	71	.86	-.83	5.1
		520	2304	2.84	2512	26	63	.78	-.75	4.8
		560	2347	2.68	2551	25	56	.71	-.69	4.5
20	1500	360	2837	5.06	3209	34	139	1.28	-1.22	8.5
		400	2971	4.77	3329	32	120	1.12	-1.07	8.1
		440	3088	4.51	3433	31	105	.99	-.96	7.6
		480	3188	4.27	3524	29	92	.89	-.86	7.2
		520	3276	4.05	3603	28	82	.81	-.78	6.8
		560	3352	3.85	3672	27	73	.74	-.72	6.5
20	2000	360	3539	6.34	4065	37	167	1.33	-1.27	10.7
		400	3727	6.01	4230	35	145	1.16	-1.12	10.1
		440	3893	5.70	4377	33	127	1.03	-.99	9.6
		480	4038	5.43	4506	32	112	.92	-.89	9.2
		520	4166	5.17	4621	30	100	.83	-.81	8.7
		560	4278	4.93	4723	29	89	.76	-.74	8.3

Table 6-10. (Sheet 4)

DIVE BOMBING TABLES
FOR
MK-82 500-LB GP BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
20	2500	360	4177	7.50	4868	39	192	1.37	-1.31	12.7
		400	4418	7.14	5077	37	167	1.20	-1.15	12.1
		440	4633	6.81	5264	35	147	1.06	-1.02	11.5
		480	4822	6.50	5432	33	130	.95	-.92	11.0
		520	4992	6.21	5583	32	116	.86	-.83	10.5
		560	5142	5.95	5717	31	105	.78	-.76	10.0
20	3000	360	4766	8.58	5631	41	214	1.41	-1.35	14.5
		400	5058	8.20	5881	39	187	1.23	-1.18	13.8
		440	5320	7.84	6108	37	165	1.09	-1.05	13.2
		480	5555	7.51	6313	35	147	.97	-.94	12.7
		520	5765	7.20	6499	34	132	.88	-.85	12.1
		560	5952	6.92	6665	32	119	.80	-.78	11.7
20	3500	360	5315	9.59	6364	43	234	1.43	-1.37	16.2
		400	5657	9.19	6652	41	206	1.26	-1.21	15.5
		440	5965	8.82	6916	39	183	1.11	-1.07	14.9
		480	6243	8.46	7157	37	163	1.00	-.96	14.3
		520	6494	8.13	7377	35	146	.90	-.87	13.7
		560	6718	7.83	7575	34	132	.82	-.80	13.2
20	4000	400	6220	10.13	7395	42	223	1.28	-1.23	17.1
		440	6573	9.74	7695	40	198	1.13	-1.09	16.4
		480	6894	9.37	7970	38	177	1.02	-.98	15.8
		520	7185	9.02	8224	37	160	.92	-.89	15.2
		560	7445	8.71	8452	35	145	.84	-.81	14.7
20	4500	400	6755	11.03	8116	44	239	1.30	-1.25	18.6
		440	7151	10.62	8449	42	213	1.15	-1.11	17.9
		480	7513	10.24	8758	40	191	1.03	-1.00	17.3
		520	7844	9.88	9043	38	172	.93	-.90	16.7
		560	8139	9.56	9300	36	157	.85	-.83	16.1
20	5000	440	7702	11.47	9183	43	227	1.17	-1.13	19.4
		480	8105	11.07	9523	41	204	1.05	-1.02	18.7
		520	8474	10.70	9839	39	185	.95	-.92	18.1
		560	8803	10.37	10124	38	168	.87	-.84	17.5
20	5500	440	8230	12.28	9899	44	241	1.19	-1.15	20.7
		480	8672	11.87	10269	42	217	1.06	-1.03	20.0
		520	9078	11.49	10614	40	196	.96	-.93	19.4
		560	9440	11.16	10926	39	179	.88	-.86	18.8
20	6000	480	9218	12.65	10998	43	229	1.08	-1.04	21.3
		520	9660	12.26	11372	41	207	.98	-.95	20.7
		560	10054	11.92	11708	40	190	.90	-.87	20.1
20	6500	520	10222	13.00	12114	42	218	.99	-.96	21.9
		560	10645	12.67	12473	41	200	.91	-.88	21.4
30	1500	360	2066	4.01	2553	40	107	1.60	-1.53	6.8
		400	2134	3.72	2608	39	91	1.42	-1.37	6.3
		440	2189	3.47	2654	38	79	1.28	-1.23	5.9
		480	2236	3.25	2692	37	69	1.16	-1.12	5.5
30	2000	360	2630	5.12	3304	43	128	1.62	-1.56	8.6
		400	2730	4.78	3385	41	110	1.44	-1.39	8.1
		440	2815	4.47	3453	40	96	1.30	-1.25	7.6
		480	2885	4.20	3511	38	84	1.18	-1.14	7.1
		520	2946	3.96	3561	37	74	1.08	-1.04	6.7
		560	2997	3.74	3603	37	66	.99	-.96	6.3
30	2500	360	3154	6.15	4025	45	148	1.64	-1.58	10.4
		400	3288	5.77	4131	43	128	1.46	-1.41	9.7
		440	3402	5.42	4222	41	112	1.31	-1.27	9.2
		480	3500	5.11	4301	40	98	1.19	-1.15	8.6
		520	3583	4.83	4369	39	87	1.09	-1.06	8.2
		560	3655	4.58	4428	38	78	1.00	-.98	7.7
30	3000	360	3645	7.12	4721	46	166	1.66	-1.59	12.0
		400	3814	6.71	4853	44	144	1.47	-1.42	11.3
		440	3959	6.33	4967	43	126	1.33	-1.28	10.7
		480	4084	5.98	5067	41	111	1.20	-1.16	10.1
		520	4192	5.67	5155	40	99	1.10	-1.07	9.6
		560	4285	5.38	5230	39	88	1.01	-.99	9.1

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Table 6-10. (Sheet 5)

DIVE BOMBING TABLES
FOR
MK-82 500-LB GP BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
30	3500	360	4109	8.05	5397	48	183	1.67	-1.61	13.6
		400	4312	7.60	5554	46	159	1.49	-1.43	12.8
		440	4488	7.19	5692	44	140	1.34	-1.29	12.1
		480	4641	6.81	5813	43	124	1.21	-1.18	11.5
		520	4775	6.47	5920	41	110	1.11	-1.08	10.9
		560	4889	6.17	6013	40	99	1.02	-1.00	10.4
30	4000	360	4549	8.93	6057	49	199	1.68	-1.62	15.1
		400	4787	8.45	6238	47	174	1.50	-1.45	14.3
		440	4994	8.02	6398	45	153	1.35	-1.30	13.5
		480	5175	7.62	6541	44	135	1.22	-1.19	12.9
		520	5335	7.25	6668	42	121	1.12	-1.09	12.2
		560	5472	6.92	6778	41	109	1.03	-1.01	11.7
30	4500	360	4969	9.77	6703	51	213	1.69	-1.63	16.5
		400	5242	9.28	6907	48	187	1.51	-1.46	15.7
		440	5479	8.82	7090	46	165	1.36	-1.31	14.9
		480	5689	8.39	7254	45	146	1.23	-1.20	14.2
		520	5874	8.00	7399	43	131	1.13	-1.10	13.5
		560	6034	7.66	7527	42	118	1.04	-1.01	12.9
30	5000	360	5370	10.58	7338	52	227	1.69	-1.63	17.9
		400	5675	10.07	7564	50	199	1.51	-1.46	17.0
		440	5945	9.59	7768	48	176	1.37	-1.32	16.2
		480	6184	9.14	7952	46	157	1.24	-1.20	15.4
		520	6395	8.73	8118	44	141	1.14	-1.10	14.7
		560	6577	8.37	8262	43	127	1.05	-1.02	14.1
30	5500	360	5756	11.36	7962	53	240	1.70	-1.64	19.2
		400	6094	10.83	8209	51	211	1.52	-1.47	18.3
		440	6395	10.33	8435	49	188	1.37	-1.33	17.4
		480	6662	9.87	8639	47	167	1.25	-1.21	16.7
		520	6899	9.44	8823	45	150	1.14	-1.11	15.9
		560	7104	9.07	8984	44	136	1.06	-1.03	15.3
30	6000	360	6128	12.12	8576	54	252	1.70	-1.64	20.5
		400	6499	11.57	8845	52	223	1.52	-1.48	19.5
		440	6829	11.05	9090	50	198	1.38	-1.34	18.7
		480	7124	10.57	9314	48	177	1.25	-1.22	17.8
		520	7387	10.13	9517	46	159	1.15	-1.12	17.1
		560	7614	9.76	9694	45	144	1.07	-1.04	16.5
30	6500	400	6889	12.29	9472	53	233	1.53	-1.48	20.7
		440	7250	11.76	9737	50	208	1.38	-1.34	19.8
		480	7573	11.26	9980	49	186	1.26	-1.22	19.0
		520	7861	10.81	10200	47	168	1.16	-1.13	18.2
		560	8110	10.43	10393	46	153	1.07	-1.05	17.6
30	7000	400	7268	12.98	10091	53	244	1.53	-1.49	21.9
		440	7658	12.44	10375	51	218	1.39	-1.35	21.0
		480	8008	11.93	10637	49	195	1.27	-1.23	20.1
		520	8322	11.47	10875	48	176	1.16	-1.13	19.4
		560	8592	11.08	11083	46	161	1.08	-1.05	18.7
30	7500	400	7636	13.66	10703	54	253	1.54	-1.49	23.1
		440	8054	13.11	11006	52	227	1.39	-1.35	22.1
		480	8432	12.59	11285	50	204	1.27	-1.24	21.2
		520	8771	12.12	11540	49	184	1.17	-1.14	20.5
		560	9062	11.73	11763	47	168	1.09	-1.06	19.8
30	8000	440	8441	13.76	11629	53	236	1.40	-1.36	23.2
		480	8845	13.23	11926	51	212	1.27	-1.24	22.3
		520	9208	12.75	12198	49	192	1.17	-1.14	21.5
		560	9519	12.36	12434	48	176	1.09	-1.07	20.9
30	8500	440	8817	14.39	12247	54	244	1.40	-1.36	24.3
		480	9248	13.86	12561	52	220	1.28	-1.24	23.4
		520	9634	13.38	12848	50	200	1.18	-1.15	22.6
		560	9965	12.98	13098	49	183	1.10	-1.07	21.9
30	9000	480	9641	14.47	13189	52	228	1.28	-1.25	24.4
		520	10050	13.99	13491	51	207	1.18	-1.15	23.6
		560	10400	13.59	13754	49	190	1.11	-1.08	22.9

Table 6-10. (Sheet 6)

DIVE BOMBING TABLES
FOR
MK-82 500-LB GP BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS		
								HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KT
30	9500	480	10024	15.08	13811	53	235	1.29	-1.25	25.4
		520	10457	14.59	14128	51	214	1.19	-1.16	24.6
		560	10826	14.20	14403	50	197	1.11	-1.08	24.0
30	10000	480	10400	15.67	14428	54	243	1.29	-1.26	26.4
		520	10854	15.19	14759	52	221	1.19	-1.16	25.6
		560	11241	14.79	15045	51	204	1.12	-1.09	25.0
45	2500	360	2042	4.90	3228	55	102	2.03	-1.96	8.3
		400	2103	4.53	3267	53	88	1.83	-1.77	7.7
		440	2152	4.21	3299	52	76	1.66	-1.62	7.1
45	3000	360	2387	5.74	3834	56	115	2.02	-1.95	9.7
		400	2466	5.33	3884	55	99	1.82	-1.77	9.0
		440	2531	4.97	3925	53	86	1.66	-1.62	8.4
		480	2585	4.64	3960	52	76	1.52	-1.49	7.8
45	3500	360	2718	6.55	4431	57	127	2.01	-1.95	11.1
		400	2816	6.10	4492	56	109	1.82	-1.76	10.3
		440	2897	5.70	4544	54	95	1.66	-1.61	9.6
		480	2965	5.34	4587	53	84	1.52	-1.48	9.0
		520	3023	5.02	4625	52	74	1.41	-1.37	8.5
45	4000	360	3036	7.33	5021	58	137	2.00	-1.94	12.4
		400	3153	6.84	5093	56	119	1.81	-1.76	11.5
		440	3251	6.40	5155	55	104	1.65	-1.61	10.8
		480	3334	6.01	5207	54	92	1.52	-1.48	10.2
		520	3404	5.67	5253	53	81	1.41	-1.37	9.6
		560	3463	5.36	5291	52	73	1.31	-1.28	9.0
45	4500	360	3341	8.08	5605	59	148	1.99	-1.93	13.6
		400	3479	7.56	5688	57	128	1.80	-1.76	12.8
		440	3594	7.09	5759	56	112	1.65	-1.61	12.0
		480	3692	6.67	5821	55	99	1.52	-1.48	11.3
		520	3776	6.30	5874	54	88	1.41	-1.37	10.6
		560	3846	5.97	5920	53	79	1.31	-1.28	10.1
45	5000	360	3637	8.81	6183	60	158	1.98	-1.92	14.9
		400	3794	8.26	6277	58	137	1.80	-1.75	13.9
		440	3927	7.77	6358	57	121	1.65	-1.60	13.1
		480	4041	7.32	6429	55	107	1.52	-1.48	12.4
		520	4139	6.92	6491	54	95	1.40	-1.37	11.7
		560	4220	6.57	6543	54	85	1.31	-1.28	11.1
45	5500	360	3923	9.52	6756	61	167	1.97	-1.91	16.1
		400	4100	8.94	6860	59	146	1.79	-1.74	15.1
		440	4251	8.42	6952	57	128	1.64	-1.60	14.2
		480	4381	7.95	7032	56	114	1.51	-1.48	13.4
		520	4492	7.53	7102	55	101	1.40	-1.37	12.7
		560	4586	7.16	7161	54	91	1.31	-1.29	12.1
45	6000	360	4200	10.21	7324	61	176	1.96	-1.90	17.2
		400	4397	9.61	7439	60	154	1.78	-1.74	16.2
		440	4567	9.06	7540	58	136	1.64	-1.60	15.3
		480	4713	8.57	7629	57	120	1.51	-1.48	14.5
		520	4838	8.12	7708	56	108	1.40	-1.37	13.7
		560	4944	7.74	7774	55	97	1.31	-1.29	13.1
45	6500	360	4469	10.88	7888	62	184	1.95	-1.90	18.4
		400	4686	10.26	8013	60	162	1.78	-1.73	17.3
		440	4874	9.69	8124	59	143	1.63	-1.59	16.4
		480	5036	9.17	8223	57	127	1.51	-1.47	15.5
		520	5176	8.71	8309	56	114	1.40	-1.37	14.7
		560	5294	8.32	8383	55	103	1.31	-1.29	14.0
45	7000	360	4730	11.53	8448	63	192	1.94	-1.89	19.5
		400	4968	10.89	8584	61	169	1.77	-1.73	18.4
		440	5174	10.30	8705	59	150	1.63	-1.59	17.4
		480	5353	9.77	8812	58	133	1.50	-1.47	16.5
		520	5507	9.29	8907	57	119	1.40	-1.37	15.7
		560	5637	8.88	8987	56	108	1.32	-1.29	15.0
45	7500	360	4985	12.17	9006	63	199	1.93	-1.88	20.5
		400	5243	11.51	9151	62	176	1.76	-1.72	19.4
		440	5467	10.90	9281	60	156	1.62	-1.59	18.4
		480	5662	10.35	9397	59	139	1.50	-1.47	17.5
		520	5831	9.86	9500	57	125	1.40	-1.37	16.6
		560	5973	9.44	9588	56	113	1.32	-1.29	15.9

Table 6-10. (Sheet 7)

DIVE BOMBING TABLES
FOR
MK-82 500-LB GP BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNCT	TAIL MILS/KNCT	CROSS FT/KT
45	8000	360	5234	12.80	9560	64	207	1.92	-1.87	21.6
		400	5511	12.12	9715	62	183	1.76	-1.72	20.4
		440	5754	11.49	9854	61	163	1.62	-1.58	19.4
		480	5965	10.92	9979	59	145	1.50	-1.47	18.4
		520	6149	10.42	10090	58	131	1.40	-1.37	17.6
		560	6303	10.00	10184	57	119	1.32	-1.29	16.9
45	8500	360	5476	13.41	10111	64	214	1.91	-1.86	22.6
		400	5774	12.71	10276	63	189	1.75	-1.71	21.5
		440	6034	12.07	10424	61	169	1.61	-1.58	20.4
		480	6262	11.49	10558	60	151	1.50	-1.46	19.4
		520	6460	10.97	10676	58	136	1.40	-1.37	18.5
		560	6626	10.54	10777	57	124	1.32	-1.29	17.8
45	9000	360	5713	14.01	10660	65	220	1.90	-1.85	23.6
		400	6031	13.29	10834	63	196	1.74	-1.70	22.4
		440	6309	12.64	10991	62	175	1.61	-1.57	21.3
		480	6554	12.04	11133	60	157	1.49	-1.46	20.3
		520	6766	11.52	11259	59	141	1.40	-1.37	19.4
		560	6943	11.08	11367	58	129	1.32	-1.29	18.7
45	9500	360	5945	14.59	11207	65	227	1.89	-1.84	24.6
		400	6282	13.87	11389	64	202	1.74	-1.70	23.4
		440	6579	13.20	11555	62	180	1.60	-1.57	22.3
		480	6839	12.59	11706	61	162	1.49	-1.46	21.3
		520	7065	12.06	11839	59	146	1.40	-1.37	20.4
		560	7254	11.62	11953	58	134	1.32	-1.29	19.6
45	10000	360	6173	15.17	11752	66	233	1.88	-1.83	25.6
		400	6529	14.43	11942	64	208	1.73	-1.69	24.4
		440	6843	13.75	12117	62	186	1.60	-1.56	23.2
		480	7120	13.13	12276	61	167	1.49	-1.46	22.2
		520	7360	12.60	12416	60	151	1.39	-1.37	21.3
		560	7560	12.15	12536	59	139	1.32	-1.29	20.5
60	3500	360	1652	5.69	3870	68	84	2.28	-2.23	9.6
		400	1701	5.26	3891	67	73	2.08	-2.04	8.9
60	4000	360	1853	6.40	4409	68	91	2.25	-2.21	10.8
		400	1913	5.93	4434	67	79	2.06	-2.02	10.0
		440	1952	5.51	4455	66	69	1.90	-1.86	9.3
60	4500	360	2049	7.09	4945	69	97	2.23	-2.18	12.0
		400	2119	6.58	4974	68	85	2.04	-2.00	11.1
		440	2177	6.13	4999	67	74	1.88	-1.85	10.3
60	5000	360	2239	7.76	5478	69	104	2.21	-2.16	13.1
		400	2320	7.21	5512	68	90	2.03	-1.99	12.2
		440	2388	6.73	5541	67	79	1.87	-1.84	11.4
		480	2444	6.30	5566	67	70	1.74	-1.71	10.6
60	5500	360	2424	8.41	6010	70	109	2.19	-2.14	14.2
		400	2516	7.84	6048	69	95	2.01	-1.97	13.2
		440	2594	7.32	6081	68	84	1.86	-1.83	12.4
		480	2659	6.87	6109	67	74	1.73	-1.70	11.6
		520	2713	6.47	6133	66	66	1.61	-1.59	10.9
60	6000	360	2604	9.05	6541	70	115	2.17	-2.13	15.3
		400	2708	8.44	6583	69	101	1.99	-1.96	14.3
		440	2795	7.91	6619	68	88	1.85	-1.82	13.3
		480	2869	7.42	6651	67	78	1.72	-1.69	12.5
		520	2931	7.00	6678	67	70	1.60	-1.58	11.8
		560	2983	6.64	6700	66	63	1.51	-1.49	11.2
60	6500	360	2779	9.67	7069	71	120	2.15	-2.11	16.3
		400	2895	9.04	7116	70	105	1.98	-1.95	15.3
		440	2992	8.48	7156	69	93	1.83	-1.80	14.3
		480	3075	7.97	7191	68	83	1.71	-1.68	13.5
		520	3145	7.52	7221	67	74	1.60	-1.57	12.7
		560	3203	7.15	7246	66	67	1.51	-1.48	12.1
60	7000	360	2959	10.28	7595	71	125	2.13	-2.09	17.4
		400	3078	9.63	7647	70	110	1.96	-1.93	16.2
		440	3185	9.04	7691	69	97	1.82	-1.79	15.3
		480	3277	8.51	7729	68	86	1.70	-1.67	14.4
		520	3355	8.04	7762	67	77	1.59	-1.57	13.6
		560	3419	7.65	7790	67	70	1.50	-1.48	12.9

Table 6-10. (Sheet 8)

DIVE BOMBING TABLES
FOR
MK-82 500-LB GP BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
60	7500	360	3118	10.88	8122	72	130	2.11	-2.07	18.4
		400	3257	10.20	8177	71	115	1.95	-1.92	17.2
		440	3375	9.59	8224	69	101	1.81	-1.78	16.2
		480	3476	9.04	8266	69	90	1.69	-1.66	15.3
		520	3561	8.56	8302	68	81	1.59	-1.56	14.4
		560	3632	8.15	8333	67	73	1.50	-1.48	13.8
60	8000	360	3281	11.47	8647	72	135	2.09	-2.06	19.4
		400	3432	10.77	8705	71	119	1.94	-1.90	18.2
		440	3561	10.13	8757	70	105	1.80	-1.77	17.1
		480	3671	9.56	8802	69	94	1.68	-1.66	16.1
		520	3764	9.07	8841	68	84	1.58	-1.56	15.3
		560	3841	8.65	8875	67	77	1.50	-1.47	14.6
60	8500	360	3442	12.04	9170	72	140	2.07	-2.04	20.3
		400	3604	11.32	9233	71	123	1.92	-1.89	19.1
		440	3743	10.67	9288	70	109	1.79	-1.76	18.0
		480	3862	10.08	9336	69	98	1.67	-1.65	17.0
		520	3964	9.57	9379	68	88	1.57	-1.55	16.2
		560	4048	9.14	9415	68	80	1.49	-1.47	15.4
60	9000	360	3599	12.61	9693	73	144	2.06	-2.02	21.3
		400	3773	11.87	9759	72	127	1.91	-1.88	20.0
		440	3923	11.19	9818	70	113	1.78	-1.75	18.9
		480	4051	10.59	9870	70	101	1.67	-1.64	17.9
		520	4160	10.07	9915	69	91	1.57	-1.55	17.0
		560	4251	9.63	9953	68	83	1.49	-1.47	16.3
60	9500	360	3752	13.16	10214	73	148	2.04	-2.01	22.2
		400	3939	12.40	10284	72	131	1.90	-1.87	20.9
		440	4099	11.71	10347	71	117	1.77	-1.74	19.8
		480	4237	11.10	10402	70	105	1.66	-1.63	18.7
		520	4354	10.56	10450	69	94	1.56	-1.54	17.8
		560	4451	10.12	10491	68	86	1.49	-1.47	17.1
60	10000	360	3903	13.71	10735	73	152	2.03	-1.99	23.1
		400	4101	12.93	10808	72	135	1.88	-1.86	21.8
		440	4272	12.23	10874	71	120	1.76	-1.73	20.6
		480	4419	11.60	10933	70	108	1.65	-1.63	19.6
		520	4545	11.05	10984	69	98	1.56	-1.54	18.7
		560	4648	10.60	11028	69	89	1.48	-1.46	17.9

Table 6-11. (Sheet 1)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	RELEASE ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS DRIFT FT/KNOTS	CROSS CRAB FT/KNOTS
0	360	350	2676	2653	4.35	4.35	350	73	134	.38	-.36	7.35	.08
0	400	350	2967	2946	4.35	4.35	350	81	120	.31	-.29	7.35	.09
0	440	350	3257	3238	4.36	4.36	350	89	110	.25	-.24	7.35	.10
0	480	350	3547	3530	4.36	4.36	350	97	101	.21	-.20	7.36	.10
0	520	350	3837	3821	4.36	4.36	350	105	93	.18	-.18	7.36	.11
0	560	350	4126	4112	4.36	4.36	350	113	86	.16	-.15	7.36	.12
0	360	400	2874	2846	4.68	4.68	400	73	142	.40	-.38	7.89	.09
0	400	400	3185	3159	4.68	4.68	400	81	128	.33	-.31	7.90	.10
0	440	400	3496	3473	4.68	4.68	400	89	116	.27	-.26	7.90	.11
0	480	400	3806	3785	4.68	4.68	400	97	107	.23	-.22	7.90	.12
0	520	400	4117	4098	4.69	4.69	400	105	99	.19	-.19	7.91	.13
0	560	400	4427	4409	4.69	4.69	400	113	92	.17	-.16	7.91	.14
0	360	450	3059	3026	4.98	4.98	450	73	150	.42	-.40	8.41	.10
0	400	450	3390	3360	4.98	4.98	450	81	135	.34	-.33	8.41	.11
0	440	450	3720	3693	4.99	4.99	450	89	123	.28	-.27	8.42	.12
0	480	450	4050	4025	4.99	4.99	450	97	113	.24	-.23	8.42	.14
0	520	450	4380	4357	4.99	4.99	450	105	104	.20	-.20	8.42	.15
0	560	450	4709	4687	4.99	4.99	450	113	97	.18	-.17	8.43	.16
0	360	500	3236	3197	5.27	5.27	500	73	157	.44	-.42	8.89	.11
0	400	500	3584	3549	5.27	5.27	500	81	142	.36	-.34	8.90	.13
0	440	500	3932	3901	5.27	5.27	500	89	129	.30	-.29	8.90	.14
0	480	500	4281	4251	5.28	5.28	500	97	119	.25	-.24	8.91	.15
0	520	500	4629	4602	5.28	5.28	500	105	110	.22	-.21	8.91	.16
0	560	500	4975	4950	5.28	5.28	500	113	102	.19	-.18	8.92	.18
0	360	600	3565	3514	5.81	5.81	600	73	171	.48	-.46	9.80	.14
0	400	600	3947	3901	5.81	5.81	600	81	154	.39	-.37	9.80	.15
0	440	600	4329	4287	5.81	5.81	600	89	141	.33	-.31	9.81	.17
0	480	600	4710	4672	5.82	5.82	600	97	129	.27	-.26	9.82	.18
0	520	600	5092	5056	5.82	5.82	600	105	119	.23	-.23	9.82	.20
0	560	600	5472	5439	5.82	5.82	600	113	111	.20	-.20	9.83	.22
0	360	700	3869	3805	6.30	6.30	700	73	184	.52	-.49	10.63	.16
0	400	700	4281	4224	6.30	6.30	700	81	166	.42	-.40	10.64	.18
0	440	700	4694	4641	6.31	6.31	700	89	151	.35	-.33	10.64	.20
0	480	700	5106	5058	6.31	6.31	700	97	139	.30	-.28	10.65	.22
0	520	700	5518	5474	6.31	6.31	700	105	128	.25	-.24	10.66	.23
0	560	700	5929	5887	6.32	6.32	700	113	119	.22	-.21	10.66	.25
0	360	800	4154	4076	6.76	6.76	800	73	195	.55	-.52	11.41	.19
0	400	800	4594	4524	6.76	6.76	800	81	176	.45	-.43	11.42	.21
0	440	800	5035	4971	6.77	6.77	800	89	161	.37	-.36	11.42	.23
0	480	800	5476	5417	6.77	6.77	800	97	148	.31	-.30	11.43	.25
0	520	800	5916	5862	6.78	6.78	800	105	137	.27	-.26	11.44	.27
0	560	800	6354	6304	6.78	6.78	800	113	127	.23	-.22	11.45	.29
0	360	900	4423	4330	7.19	7.19	900	73	206	.58	-.55	12.14	.21
0	400	900	4889	4806	7.20	7.20	900	81	187	.47	-.45	12.15	.23
0	440	900	5356	5280	7.20	7.20	900	89	170	.39	-.38	12.15	.26
0	480	900	5823	5753	7.21	7.21	900	97	156	.33	-.32	12.16	.28
0	520	900	6290	6225	7.21	7.21	900	105	145	.28	-.27	12.17	.30
0	560	900	6754	6694	7.22	7.22	900	113	135	.25	-.24	12.18	.33
0	360	1000	4679	4570	7.60	7.60	1000	73	217	.61	-.58	12.83	.24
0	400	1000	5169	5072	7.61	7.61	1000	81	196	.50	-.47	12.84	.26
0	440	1000	5661	5572	7.61	7.61	1000	89	179	.41	-.40	12.85	.29
0	480	1000	6153	6071	7.62	7.62	1000	97	164	.35	-.34	12.86	.31
0	520	1000	6644	6568	7.62	7.62	1000	105	152	.30	-.29	12.87	.34
0	560	1000	7133	7063	7.63	7.63	1000	113	142	.26	-.25	12.88	.36
0	480	1500	7606	7457	9.42	9.42	1500	97	199	.42	-.41	15.90	.47
0	520	1500	8204	8066	9.43	9.43	1500	105	185	.36	-.35	15.91	.50
0	560	1500	8799	8670	9.44	9.44	1500	113	172	.32	-.30	15.93	.55
0	560	2000	10213	10015	10.97	10.97	2000	113	198	.36	-.35	18.51	.73

Table 6-11. (Sheet 2)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNOTS
10	360	800	2703	2581	4.34	4.29	787	42	128	.83	-.79	7.28
10	400	800	2856	2741	4.15	4.09	786	44	112	.71	-.67	6.96
10	440	800	2994	2885	3.97	3.91	785	46	98	.61	-.59	6.65
10	480	800	3118	3013	3.80	3.74	783	47	87	.54	-.52	6.37
10	520	800	3230	3129	3.65	3.58	782	48	78	.48	-.46	6.10
10	560	800	3331	3233	3.50	3.43	780	48	70	.43	-.42	5.85
10	360	900	2949	2808	4.73	4.68	887	44	138	.85	-.81	7.94
10	400	900	3121	2988	4.53	4.48	886	46	120	.73	-.69	7.60
10	440	900	3277	3151	4.34	4.29	885	48	106	.63	-.60	7.28
10	480	900	3418	3297	4.17	4.11	883	49	94	.55	-.53	6.98
10	520	900	3546	3430	4.00	3.94	882	50	84	.49	-.48	6.70
10	560	900	3662	3550	3.85	3.78	880	51	75	.44	-.43	6.44
10	360	1000	3186	3025	5.10	5.05	987	45	147	.87	-.83	8.56
10	400	1000	3376	3224	4.89	4.84	986	47	128	.74	-.71	8.22
10	440	1000	3549	3405	4.70	4.65	985	49	113	.65	-.62	7.89
10	480	1000	3707	3570	4.52	4.46	983	51	100	.57	-.55	7.58
10	520	1000	3851	3719	4.35	4.29	982	52	90	.50	-.49	7.29
10	560	1000	3982	3854	4.19	4.12	980	53	81	.45	-.44	7.01
10	360	1500	4262	3990	6.76	6.72	1487	49	187	.97	-.92	11.38
10	400	1500	4536	4281	6.53	6.49	1486	52	164	.83	-.79	10.99
10	440	1500	4790	4549	6.32	6.27	1485	55	145	.71	-.68	10.62
10	480	1500	5025	4796	6.11	6.06	1483	57	130	.63	-.60	10.27
10	520	1500	5244	5025	5.91	5.86	1482	59	117	.56	-.54	9.93
10	560	1500	5445	5234	5.73	5.67	1480	61	106	.50	-.48	9.62
10	360	2000	5216	4817	8.19	8.16	1987	52	220	1.05	-1.00	13.80
10	400	2000	5561	5189	7.95	7.92	1986	56	195	.89	-.85	13.39
10	440	2000	5887	5536	7.72	7.68	1985	59	173	.77	-.74	13.00
10	480	2000	6192	5860	7.50	7.46	1983	62	155	.67	-.65	12.62
10	520	2000	6478	6161	7.29	7.24	1982	65	140	.60	-.58	12.26
10	560	2000	6744	6440	7.09	7.04	1980	67	127	.54	-.52	11.92
10	400	2500	6498	5998	9.23	9.19	2486	58	221	.94	-.90	15.55
10	440	2500	6887	6417	8.99	8.95	2485	62	198	.82	-.78	15.14
10	480	2500	7255	6810	8.75	8.71	2483	65	178	.72	-.69	14.74
10	520	2500	7602	7180	8.53	8.49	2482	68	161	.63	-.61	14.36
10	560	2500	7928	7523	8.32	8.27	2480	71	147	.57	-.55	14.00
10	440	3000	7817	7219	10.15	10.11	2985	64	220	.86	-.83	17.10
10	480	3000	8242	7677	9.91	9.87	2983	68	199	.75	-.73	16.69
10	520	3000	8646	8109	9.67	9.63	2982	71	181	.67	-.64	16.29
10	560	3000	9026	8512	9.46	9.41	2980	74	165	.60	-.58	15.93
15	360	1000	2678	2484	4.27	4.21	981	34	123	1.03	-.98	7.15
15	400	1000	2794	2609	4.04	3.97	979	35	106	.89	-.85	6.75
15	440	1000	2896	2718	3.82	3.75	977	36	93	.79	-.75	6.39
15	480	1000	2986	2813	3.63	3.55	975	36	82	.70	-.67	6.06
15	520	1000	3064	2897	3.45	3.37	973	36	72	.63	-.61	5.75
15	560	1000	3133	2970	3.29	3.20	971	36	65	.57	-.55	5.47
15	360	1500	3685	3366	5.81	5.76	1481	40	159	1.11	-1.06	9.76
15	400	1500	3866	3563	5.54	5.48	1479	41	138	.96	-.92	9.30
15	440	1500	4028	3739	5.29	5.22	1477	42	121	.84	-.81	8.87
15	480	1500	4173	3895	5.05	4.98	1475	43	107	.75	-.72	8.47
15	520	1500	4304	4034	4.83	4.76	1473	43	96	.67	-.65	8.09
15	560	1500	4420	4157	4.63	4.55	1471	44	86	.61	-.59	7.75

Table 6-11. (Sheet 3)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
15	360	2000	4595	4136	7.17	7.12	1981	43	190	1.18	-1.12	12.06
15	400	2000	4835	4402	6.87	6.82	1979	45	166	1.02	-.97	11.55
15	440	2000	5053	4640	6.59	6.53	1977	47	146	.89	-.85	11.07
15	480	2000	5252	4856	6.32	6.26	1975	48	130	.79	-.76	10.62
15	520	2000	5433	5051	6.08	6.01	1973	49	116	.71	-.68	10.20
15	560	2000	5596	5226	5.85	5.78	1971	50	105	.64	-.62	9.81
15	360	2500	5437	4828	8.40	8.35	2481	46	217	1.23	-1.17	14.14
15	400	2500	5731	5157	8.08	8.03	2479	48	191	1.06	-1.02	13.60
15	440	2500	6002	5457	7.78	7.73	2477	50	169	.93	-.89	13.08
15	480	2500	6251	5730	7.49	7.44	2475	52	151	.82	-.79	12.60
15	520	2500	6480	5979	7.22	7.16	2473	53	135	.74	-.71	12.14
15	560	2500	6689	6204	6.97	6.91	2471	54	122	.67	-.65	11.71
15	360	3000	6231	5461	9.53	9.49	2981	47	242	1.27	-1.22	16.05
15	400	3000	6575	5850	9.20	9.15	2979	50	213	1.10	-1.06	15.48
15	440	3000	6894	6207	8.88	8.83	2977	53	189	.97	-.93	14.94
15	480	3000	7191	6535	8.58	8.52	2975	55	169	.86	-.82	14.43
15	520	3000	7466	6837	8.29	8.23	2973	57	153	.77	-.74	13.94
15	560	3000	7717	7110	8.03	7.97	2971	58	138	.69	-.67	13.49
15	440	4000	8553	7560	10.88	10.83	3977	57	226	1.02	-.99	18.32
15	480	4000	8936	7991	10.55	10.50	3975	59	203	.91	-.88	17.77
15	520	4000	9296	8391	10.24	10.19	3973	62	184	.81	-.79	17.24
15	560	4000	9626	8756	9.96	9.91	3971	64	167	.74	-.71	16.77
15	480	5000	10552	9292	12.34	12.29	4975	63	233	.95	-.92	20.78
15	520	5000	10987	9784	12.01	11.96	4973	66	211	.85	-.83	20.23
15	560	5000	11387	10231	11.72	11.67	4971	68	193	.77	-.75	19.74
25	360	1300	2519	2158	3.97	3.89	1269	23	108	1.40	-1.34	6.63
25	400	1300	2586	2235	3.70	3.62	1266	23	93	1.24	-1.19	6.17
25	440	1300	2642	2300	3.46	3.37	1262	23	80	1.10	-1.06	5.77
25	480	1300	2690	2355	3.25	3.15	1259	22	70	1.00	-.96	5.40
25	520	1300	2730	2401	3.05	2.96	1255	22	62	.91	-.88	5.08
25	560	1300	2764	2440	2.88	2.79	1252	21	55	.83	-.81	4.78
25	360	1400	2688	2295	4.22	4.15	1369	24	114	1.41	-1.35	7.06
25	400	1400	2762	2381	3.94	3.86	1366	24	97	1.24	-1.19	6.59
25	440	1400	2824	2453	3.69	3.61	1362	24	84	1.11	-1.07	6.16
25	480	1400	2877	2513	3.47	3.38	1359	23	74	1.00	-.97	5.78
25	520	1400	2922	2565	3.27	3.17	1355	23	65	.91	-.88	5.43
25	560	1400	2960	2608	3.09	2.99	1352	22	58	.84	-.81	5.13
25	360	1500	2855	2429	4.47	4.40	1469	25	119	1.42	-1.36	7.49
25	400	1500	2935	2523	4.18	4.10	1466	25	102	1.25	-1.20	6.99
25	440	1500	3004	2602	3.92	3.83	1462	25	89	1.12	-1.08	6.55
25	480	1500	3062	2669	3.69	3.60	1459	24	78	1.01	-.97	6.15
25	520	1500	3112	2726	3.47	3.38	1455	24	68	.92	-.89	5.79
25	560	1500	3154	2775	3.29	3.19	1452	23	61	.84	-.82	5.47
25	360	2000	3658	3063	5.66	5.59	1969	29	144	1.46	-1.40	9.50
25	400	2000	3773	3200	5.32	5.25	1966	29	124	1.29	-1.23	8.92
25	440	2000	3873	3316	5.01	4.93	1962	29	108	1.15	-1.10	8.40
25	480	2000	3959	3417	4.74	4.65	1959	29	95	1.03	-1.00	7.92
25	520	2000	4034	3503	4.48	4.39	1955	29	84	.94	-.91	7.49
25	560	2000	4098	3577	4.25	4.16	1952	28	75	.86	-.84	7.10

Table 6-11. (Sheet 4)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS FT/KNOTS
25	360	2500	4421	3646	6.76	6.69	2469	32	166	1.49	-1.43	11.35
25	400	2500	4570	3825	6.38	6.31	2466	32	144	1.31	-1.26	10.71
25	440	2500	4701	3981	6.04	5.96	2462	32	126	1.17	-1.13	10.13
25	480	2500	4815	4116	5.72	5.64	2459	32	111	1.06	-1.02	9.59
25	520	2500	4916	4233	5.43	5.35	2455	32	98	.96	-.93	9.10
25	560	2500	5004	4335	5.17	5.09	2452	32	88	.88	-.86	8.66
25	360	3000	5152	4188	7.79	7.73	2969	34	187	1.52	-1.45	13.09
25	400	3000	5334	4410	7.38	7.31	2966	35	162	1.34	-1.29	12.40
25	440	3000	5495	4604	7.01	6.93	2962	35	142	1.19	-1.15	11.76
25	480	3000	5638	4774	6.66	6.58	2959	35	126	1.08	-1.04	11.18
25	520	3000	5766	4924	6.34	6.26	2955	36	112	.98	-.95	10.64
25	560	3000	5877	5054	6.06	5.97	2952	36	100	.90	-.87	10.15
25	360	4000	6542	5177	9.67	9.62	3969	37	223	1.56	-1.50	16.28
25	400	4000	6786	5481	9.22	9.16	3966	39	195	1.38	-1.33	15.51
25	440	4000	7006	5752	8.80	8.73	3962	40	172	1.23	-1.19	14.80
25	480	4000	7205	5993	8.41	8.34	3959	40	153	1.11	-1.07	14.13
25	520	4000	7384	6207	8.04	7.97	3955	41	137	1.01	-.98	13.51
25	560	4000	7543	6395	7.72	7.64	3952	41	123	.93	-.90	12.96
25	360	5000	7863	6069	11.39	11.34	4969	40	254	1.58	-1.53	19.18
25	400	5000	8163	6452	10.90	10.85	4966	42	224	1.41	-1.36	18.35
25	440	5000	8437	6796	10.45	10.39	4962	43	199	1.26	-1.22	17.58
25	480	5000	8689	7106	10.02	9.95	4959	44	178	1.14	-1.10	16.85
25	520	5000	8918	7385	9.62	9.55	4955	45	160	1.03	-1.00	16.18
25	560	5000	9122	7629	9.27	9.20	4952	46	145	.95	-.93	15.58
25	400	6000	9484	7345	12.46	12.41	5966	44	249	1.43	-1.38	20.99
25	440	6000	9809	7760	11.98	11.92	5962	46	223	1.28	-1.24	20.17
25	480	6000	10110	8137	11.52	11.46	5959	47	200	1.16	-1.12	19.39
25	520	6000	10386	8478	11.10	11.03	5955	48	180	1.06	-1.03	18.68
25	560	6000	10632	8777	10.74	10.67	5952	50	164	.97	-.95	18.06
30	360	1700	2867	2308	4.46	4.38	1664	22	113	1.59	-1.52	7.46
30	400	1700	2932	2388	4.15	4.07	1659	21	97	1.41	-1.35	6.94
30	440	1700	2986	2455	3.88	3.79	1655	21	84	1.26	-1.22	6.47
30	480	1700	3032	2511	3.63	3.54	1651	21	74	1.15	-1.11	6.06
30	520	1700	3071	2558	3.42	3.32	1647	20	65	1.05	-1.02	5.69
30	560	1700	3104	2597	3.22	3.12	1643	19	58	.96	-.94	5.36
30	360	1800	3017	2421	4.68	4.60	1764	22	118	1.59	-1.53	7.84
30	400	1800	3087	2508	4.36	4.28	1759	22	101	1.41	-1.36	7.29
30	440	1800	3146	2580	4.08	3.99	1755	22	87	1.27	-1.22	6.81
30	480	1800	3196	2641	3.83	3.73	1751	21	76	1.15	-1.11	6.38
30	520	1800	3238	2692	3.60	3.50	1747	21	68	1.05	-1.02	5.99
30	560	1800	3275	2735	3.40	3.30	1743	20	60	.97	-.94	5.65
30	360	1900	3166	2532	4.90	4.82	1864	23	122	1.60	-1.53	8.20
30	400	1900	3241	2626	4.57	4.49	1859	23	105	1.42	-1.36	7.64
30	440	1900	3305	2704	4.28	4.19	1855	22	91	1.27	-1.23	7.15
30	480	1900	3359	2770	4.01	3.92	1851	22	79	1.15	-1.12	6.70
30	520	1900	3405	2825	3.78	3.68	1847	21	70	1.05	-1.02	6.30
30	560	1900	3444	2872	3.57	3.47	1843	21	62	.97	-.94	5.94
30	360	2000	3314	2642	5.12	5.04	1964	23	126	1.60	-1.54	8.57
30	400	2000	3394	2742	4.78	4.69	1959	23	108	1.42	-1.37	7.99
30	440	2000	3462	2826	4.47	4.39	1955	23	94	1.28	-1.23	7.48
30	480	2000	3520	2897	4.20	4.11	1951	23	82	1.16	-1.12	7.02
30	520	2000	3570	2957	3.96	3.86	1947	22	73	1.06	-1.03	6.60
30	560	2000	3612	3008	3.74	3.64	1943	22	65	.97	-.95	6.23

Table 6-11. (Sheet 5)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
30	360	2500	4035	3167	6.15	6.08	2464	26	146	1.62	-1.56	10.32
30	400	2500	4141	3302	5.77	5.69	2459	26	126	1.44	-1.39	9.67
30	440	2500	4233	3416	5.42	5.34	2455	26	110	1.30	-1.25	9.08
30	480	2500	4312	3513	5.11	5.02	2451	26	96	1.17	-1.14	8.55
30	520	2500	4380	3596	4.83	4.74	2447	25	85	1.07	-1.04	8.08
30	560	2500	4438	3667	4.58	4.48	2443	25	76	.99	-.96	7.65
30	360	3000	4732	3659	7.13	7.06	2964	28	165	1.64	-1.58	11.97
30	400	3000	4864	3828	6.71	6.63	2959	29	142	1.46	-1.41	11.26
30	440	3000	4979	3973	6.33	6.25	2955	29	124	1.31	-1.27	10.61
30	480	3000	5079	4098	5.98	5.90	2951	29	110	1.19	-1.15	10.02
30	520	3000	5166	4206	5.67	5.58	2947	28	97	1.09	-1.05	9.49
30	560	3000	5242	4299	5.38	5.29	2943	28	87	1.00	-.97	9.01
30	360	3500	5409	4124	8.05	7.98	3464	30	181	1.66	-1.59	13.53
30	400	3500	5566	4328	7.60	7.53	3459	31	158	1.47	-1.42	12.77
30	440	3500	5704	4504	7.19	7.11	3455	31	138	1.32	-1.28	12.07
30	480	3500	5825	4657	6.81	6.73	3451	31	122	1.20	-1.16	11.43
30	520	3500	5933	4790	6.47	6.39	3447	31	108	1.10	-1.07	10.85
30	560	3500	6026	4905	6.17	6.08	3443	31	97	1.01	-.99	10.33
30	360	4000	6069	4565	8.93	8.87	3964	32	197	1.67	-1.61	15.02
30	400	4000	6250	4803	8.46	8.39	3959	33	172	1.49	-1.43	14.21
30	440	4000	6411	5011	8.02	7.95	3955	33	151	1.34	-1.29	13.47
30	480	4000	6554	5192	7.62	7.54	3951	33	134	1.21	-1.18	12.79
30	520	4000	6681	5351	7.25	7.17	3947	33	119	1.11	-1.08	12.16
30	560	4000	6791	5489	6.92	6.84	3943	33	107	1.02	-1.00	11.61
30	360	4500	6716	4985	9.77	9.71	4464	33	212	1.68	-1.62	16.44
30	400	4500	6920	5257	9.28	9.21	4459	34	185	1.50	-1.44	15.60
30	440	4500	7103	5496	8.82	8.75	4455	35	163	1.35	-1.30	14.82
30	480	4500	7267	5706	8.39	8.32	4451	35	145	1.22	-1.19	14.10
30	520	4500	7414	5892	8.00	7.92	4447	35	130	1.12	-1.09	13.44
30	560	4500	7541	6052	7.66	7.58	4443	35	117	1.03	-1.01	12.85
30	360	5000	7350	5388	10.58	10.53	4964	34	225	1.68	-1.62	17.81
30	400	5000	7577	5693	10.07	10.00	4959	36	198	1.50	-1.45	16.94
30	440	5000	7782	5963	9.59	9.52	4955	36	175	1.36	-1.31	16.12
30	480	5000	7967	6202	9.14	9.07	4951	37	156	1.23	-1.20	15.37
30	520	5000	8132	6413	8.73	8.65	4947	37	139	1.13	-1.10	14.67
30	560	5000	8277	6596	8.37	8.29	4943	37	126	1.04	-1.01	14.07
30	360	6000	8589	6146	12.12	12.07	5964	36	251	1.69	-1.63	20.41
30	400	6000	8859	6517	11.57	11.51	5959	38	221	1.52	-1.47	19.48
30	440	6000	9105	6848	11.05	10.99	5955	39	197	1.37	-1.33	18.60
30	480	6000	9329	7144	10.57	10.51	5951	40	176	1.25	-1.21	17.79
30	520	6000	9533	7407	10.13	10.06	5947	40	158	1.14	-1.11	17.04
30	560	6000	9710	7635	9.76	9.68	5943	41	143	1.06	-1.03	16.40
30	400	7000	10105	7288	12.98	12.93	6959	40	242	1.52	-1.48	21.86
30	440	7000	10390	7678	12.44	12.38	6955	41	216	1.38	-1.34	20.95
30	480	7000	10652	8030	11.93	11.87	6951	42	194	1.26	-1.22	20.09
30	520	7000	10891	8344	11.47	11.40	6947	43	175	1.16	-1.13	19.30
30	560	7000	11100	8614	11.08	11.01	6943	44	159	1.07	-1.05	18.64
30	440	8000	11645	8462	13.76	13.70	7955	43	234	1.39	-1.35	23.17
30	480	8000	11943	8867	13.23	13.17	7951	45	211	1.27	-1.23	22.27
30	520	8000	12215	9231	12.75	12.69	7947	46	191	1.17	-1.14	21.47
30	560	8000	12452	9542	12.36	12.29	7943	47	175	1.09	-1.06	20.80

Table 6-11. (Sheet 6)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNOTS
45	360	2300	2987	1906	4.55	4.46	2248	14	95	2.00	-1.94	7.61
45	400	2300	3022	1960	4.21	4.11	2243	14	82	1.80	-1.75	7.02
45	440	2300	3050	2003	3.90	3.81	2237	13	71	1.64	-1.59	6.51
45	480	2300	3074	2039	3.64	3.54	2231	13	62	1.50	-1.46	6.06
45	520	2300	3094	2069	3.41	3.30	2226	13	55	1.38	-1.35	5.66
45	560	2300	3110	2094	3.20	3.10	2220	12	49	1.28	-1.26	5.31
45	360	2400	3110	1978	4.73	4.64	2348	15	98	2.00	-1.94	7.90
45	400	2400	3147	2035	4.37	4.28	2343	14	84	1.80	-1.75	7.30
45	440	2400	3177	2082	4.06	3.96	2337	14	73	1.64	-1.59	6.77
45	480	2400	3202	2120	3.79	3.69	2331	13	64	1.50	-1.46	6.31
45	520	2400	3223	2152	3.54	3.44	2326	13	56	1.39	-1.35	5.90
45	560	2400	3241	2178	3.33	3.23	2320	13	50	1.29	-1.26	5.54
45	360	2500	3233	2049	4.90	4.81	2448	15	101	2.00	-1.94	8.19
45	400	2500	3271	2110	4.53	4.44	2443	15	86	1.80	-1.75	7.57
45	440	2500	3303	2159	4.21	4.12	2437	14	75	1.64	-1.60	7.03
45	480	2500	3330	2200	3.93	3.83	2431	14	65	1.50	-1.46	6.55
45	520	2500	3353	2234	3.68	3.58	2426	13	58	1.39	-1.35	6.13
45	560	2500	3372	2262	3.46	3.36	2420	13	52	1.29	-1.26	5.76
45	360	3000	3839	2396	5.74	5.66	2948	17	113	2.00	-1.93	9.62
45	400	3000	3889	2474	5.33	5.24	2943	16	97	1.80	-1.75	8.92
45	440	3000	3930	2539	4.97	4.87	2937	16	84	1.64	-1.60	8.30
45	480	3000	3965	2593	4.64	4.55	2931	16	74	1.50	-1.47	7.76
45	520	3000	3995	2638	4.36	4.26	2926	15	65	1.39	-1.36	7.27
45	560	3000	4020	2676	4.11	4.01	2920	15	58	1.29	-1.26	6.85
45	360	3500	4437	2727	6.55	6.47	3448	18	125	1.99	-1.93	10.98
45	400	3500	4498	2825	6.10	6.01	3443	18	108	1.80	-1.75	10.22
45	440	3500	4549	2906	5.70	5.60	3437	18	94	1.64	-1.60	9.54
45	480	3500	4593	2974	5.34	5.24	3431	17	82	1.51	-1.47	8.93
45	520	3500	4630	3031	5.02	4.92	3426	17	73	1.39	-1.36	8.39
45	560	3500	4662	3079	4.74	4.64	3420	16	65	1.29	-1.26	7.92
45	360	4000	5027	3045	7.33	7.25	3948	19	136	1.98	-1.92	12.30
45	400	4000	5099	3163	6.84	6.76	3943	19	118	1.79	-1.75	11.47
45	440	4000	5161	3261	6.40	6.32	3937	19	103	1.64	-1.60	10.74
45	480	4000	5213	3343	6.01	5.92	3931	19	90	1.51	-1.47	10.07
45	520	4000	5259	3414	5.67	5.57	3926	18	80	1.39	-1.36	9.48
45	560	4000	5297	3472	5.36	5.26	3920	18	72	1.30	-1.27	8.97
45	360	4500	5611	3352	8.08	8.00	4448	21	146	1.97	-1.92	13.57
45	400	4500	5694	3489	7.56	7.48	4443	21	127	1.79	-1.74	12.69
45	440	4500	5766	3604	7.09	7.01	4437	20	111	1.64	-1.59	11.90
45	480	4500	5827	3702	6.67	6.58	4431	20	98	1.50	-1.47	11.19
45	520	4500	5881	3786	6.30	6.20	4426	20	87	1.39	-1.36	10.55
45	560	4500	5926	3856	5.97	5.87	4420	19	78	1.30	-1.27	10.00
45	360	5000	6189	3648	8.81	8.74	4948	22	156	1.96	-1.91	14.81
45	400	5000	6283	3805	8.26	8.18	4943	22	136	1.79	-1.74	13.88
45	440	5000	6365	3938	7.77	7.68	4937	22	119	1.63	-1.59	13.04
45	480	5000	6436	4052	7.32	7.23	4931	21	105	1.50	-1.47	12.28
45	520	5000	6497	4149	6.92	6.83	4926	21	94	1.39	-1.36	11.60
45	560	5000	6550	4231	6.57	6.48	4920	21	84	1.30	-1.27	11.01
45	360	6000	7330	4211	10.21	10.14	5948	23	174	1.95	-1.89	17.17
45	400	6000	7446	4409	9.61	9.53	5943	24	153	1.77	-1.73	16.15
45	440	6000	7547	4578	9.06	8.98	5937	24	134	1.63	-1.59	15.23
45	480	6000	7637	4724	8.57	8.48	5931	24	119	1.50	-1.47	14.39
45	520	6000	7715	4850	8.12	8.03	5926	23	106	1.39	-1.36	13.63
45	560	6000	7782	4955	7.74	7.65	5920	23	96	1.30	-1.28	12.99

Table 6-11. (Sheet 7)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
45	360	7000	8455	4743	11.53	11.47	6948	25	191	1.93	-1.88	19.41
45	400	7000	8591	4981	10.89	10.82	6943	25	168	1.76	-1.72	18.32
45	440	7000	8712	5187	10.30	10.22	6937	26	148	1.62	-1.58	17.32
45	480	7000	8820	5366	9.77	9.68	6931	26	132	1.50	-1.46	16.41
45	520	7000	8915	5520	9.29	9.20	6926	26	118	1.39	-1.36	15.60
45	560	7000	8996	5650	8.88	8.79	6920	26	107	1.31	-1.28	14.92
45	360	8000	9567	5247	12.80	12.73	7948	26	206	1.91	-1.86	21.55
45	400	8000	9722	5525	12.12	12.05	7943	27	182	1.75	-1.71	20.39
45	440	8000	9862	5767	11.49	11.42	7937	27	161	1.61	-1.57	19.33
45	480	8000	9987	5979	10.92	10.84	7931	27	144	1.49	-1.46	18.37
45	520	8000	10098	6163	10.42	10.33	7926	28	130	1.39	-1.36	17.51
45	560	8000	10193	6316	10.00	9.91	7920	28	118	1.31	-1.28	16.80
45	360	9000	10668	5727	14.01	13.95	8948	27	219	1.89	-1.85	23.59
45	400	9000	10842	6045	13.29	13.23	8943	28	195	1.74	-1.70	22.38
45	440	9000	10999	6324	12.64	12.57	8937	29	174	1.60	-1.57	21.27
45	480	9000	11142	6568	12.04	11.97	8931	29	156	1.49	-1.45	20.26
45	520	9000	11268	6780	11.52	11.44	8926	29	140	1.39	-1.36	19.37
45	560	9000	11376	6958	11.08	11.00	8920	30	128	1.31	-1.28	18.64
45	360	10000	11759	6187	15.17	15.11	9948	28	232	1.87	-1.83	25.55
45	400	10000	11950	6543	14.43	14.37	9943	29	207	1.72	-1.68	24.30
45	440	10000	12126	6858	13.75	13.68	9937	30	185	1.59	-1.56	23.15
45	480	10000	12284	7135	13.13	13.06	9931	31	166	1.48	-1.45	22.10
45	520	10000	12426	7375	12.60	12.52	9926	31	150	1.39	-1.36	21.19
45	560	10000	12546	7576	12.15	12.07	9920	32	138	1.31	-1.29	20.44
60	360	3000	3331	1448	4.96	4.87	2937	10	76	2.28	-2.23	8.30
60	400	3000	3348	1487	4.57	4.48	2930	9	65	2.07	-2.03	7.64
60	440	3000	3362	1518	4.24	4.14	2923	9	57	1.90	-1.86	7.07
60	480	3000	3374	1544	3.94	3.84	2916	9	50	1.75	-1.72	6.57
60	520	3000	3384	1565	3.68	3.58	2909	8	44	1.63	-1.60	6.13
60	560	3000	3392	1583	3.46	3.35	2902	8	40	1.52	-1.49	5.75
60	360	4000	4411	1859	6.40	6.31	3937	11	90	2.23	-2.19	10.73
60	400	4000	4436	1918	5.93	5.83	3930	11	78	2.04	-2.00	9.92
60	440	4000	4458	1967	5.51	5.42	3923	11	68	1.88	-1.84	9.22
60	480	4000	4475	2007	5.15	5.05	3916	10	60	1.74	-1.71	8.60
60	520	4000	4491	2041	4.82	4.72	3909	10	53	1.62	-1.59	8.05
60	560	4000	4503	2069	4.54	4.44	3902	10	48	1.51	-1.49	7.58
60	360	5000	5481	2245	7.76	7.67	4937	13	103	2.19	-2.15	13.02
60	400	5000	5515	2327	7.21	7.13	4930	13	89	2.01	-1.98	12.10
60	440	5000	5544	2394	6.73	6.64	4923	12	78	1.86	-1.82	11.29
60	480	5000	5568	2450	6.30	6.21	4916	12	69	1.72	-1.69	10.56
60	520	5000	5589	2498	5.93	5.83	4909	12	61	1.60	-1.58	9.92
60	560	5000	5607	2537	5.60	5.50	4902	12	55	1.50	-1.48	9.37
60	360	6000	6543	2611	9.05	8.97	5937	14	114	2.15	-2.11	15.21
60	400	6000	6586	2715	8.45	8.36	5930	14	100	1.98	-1.95	14.18
60	440	6000	6622	2802	7.91	7.82	5923	14	88	1.83	-1.80	13.27
60	480	6000	6653	2875	7.42	7.33	5916	14	78	1.70	-1.68	12.45
60	520	6000	6680	2938	7.00	6.90	5909	13	69	1.59	-1.57	11.73
60	560	6000	6703	2989	6.64	6.54	5902	13	62	1.50	-1.48	11.12
60	360	7000	7599	2958	10.28	10.21	6937	15	125	2.12	-2.08	17.29
60	400	7000	7650	3085	9.63	9.55	6930	15	109	1.95	-1.92	16.18
60	440	7000	7694	3193	9.04	8.95	6923	15	96	1.81	-1.78	15.18
60	480	7000	7732	3284	8.51	8.42	6916	15	86	1.69	-1.66	14.29
60	520	7000	7765	3362	8.04	7.95	6909	15	77	1.58	-1.56	13.50
60	560	7000	7794	3426	7.65	7.55	6902	14	69	1.49	-1.47	12.83

Table 6-11. (Sheet 8)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNOTS
60	360	8000	8650	3289	11.47	11.39	7937	16	134	2.08	-2.05	19.29
60	400	8000	8708	3440	10.77	10.69	7930	16	118	1.93	-1.90	18.11
60	440	8000	8760	3569	10.13	10.05	7923	16	105	1.79	-1.76	17.03
60	480	8000	8805	3679	9.56	9.48	7916	16	93	1.67	-1.65	16.07
60	520	8000	8845	3772	9.07	8.97	7909	16	84	1.57	-1.55	15.22
60	560	8000	8878	3849	8.65	8.55	7902	16	76	1.49	-1.46	14.52
60	360	9000	9696	3607	12.61	12.54	8937	17	143	2.05	-2.02	21.22
60	400	9000	9762	3781	11.87	11.79	8930	17	126	1.90	-1.87	19.96
60	440	9000	9821	3931	11.19	11.11	8923	17	112	1.77	-1.75	18.83
60	480	9000	9873	4060	10.59	10.51	8916	17	100	1.66	-1.63	17.81
60	520	9000	9919	4169	10.07	9.98	8909	17	90	1.56	-1.54	16.92
60	560	9000	9957	4260	9.63	9.54	8902	17	82	1.48	-1.46	16.18
60	360	10000	10738	3912	13.71	13.64	9937	18	151	2.02	-1.99	23.08
60	400	10000	10812	4110	12.93	12.86	9930	18	134	1.88	-1.85	21.77
60	440	10000	10878	4281	12.23	12.15	9923	18	120	1.75	-1.73	20.57
60	480	10000	10937	4428	11.60	11.52	9916	18	107	1.64	-1.62	19.51
60	520	10000	10988	4554	11.05	10.96	9909	18	97	1.55	-1.53	18.58
60	560	10000	11031	4657	10.60	10.51	9902	18	88	1.48	-1.46	17.81
60	360	11000	11777	4206	14.78	14.71	10937	18	159	1.99	-1.96	24.88
60	400	11000	11858	4428	13.97	13.90	10930	19	141	1.85	-1.83	23.51
60	440	11000	11931	4620	13.24	13.16	10923	19	127	1.74	-1.71	22.28
60	480	11000	11996	4786	12.59	12.50	10916	19	114	1.63	-1.61	21.17
60	520	11000	12053	4927	12.02	11.94	10909	19	103	1.54	-1.52	20.22
60	560	11000	12101	5044	11.56	11.46	10902	19	94	1.47	-1.45	19.43
60	360	12000	12813	4491	15.81	15.75	11937	19	166	1.96	-1.93	26.63
60	400	12000	12900	4735	14.98	14.91	11930	19	148	1.83	-1.81	25.22
60	440	12000	12980	4948	14.22	14.15	11923	20	133	1.72	-1.69	23.94
60	480	12000	13051	5132	13.56	13.47	11916	20	120	1.62	-1.60	22.81
60	520	12000	13114	5289	12.98	12.89	11909	20	109	1.54	-1.51	21.84
60	560	12000	13167	5419	12.50	12.41	11902	20	100	1.47	-1.45	21.03

Table 6-11. (Sheet 9)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS DRIFT FT/KNOTS	CROSS CRAB FT/KNOTS
0	360	350	2712	2690	4.35	4.35	350	146	132	.37	-.35	7.35	.08
0	400	350	3007	2986	4.35	4.35	350	162	119	.30	-.28	7.35	.09
0	440	350	3301	3283	4.36	4.36	350	178	108	.25	-.24	7.35	.10
0	480	350	3596	3579	4.36	4.36	350	194	99	.21	-.20	7.36	.10
0	520	350	3890	3874	4.36	4.36	350	211	92	.18	-.17	7.36	.11
0	560	350	4183	4168	4.36	4.36	350	227	85	.15	-.15	7.36	.12
0	360	400	2910	2882	4.68	4.68	400	146	140	.39	-.37	7.89	.09
0	400	400	3225	3200	4.68	4.68	400	162	126	.32	-.30	7.90	.10
0	440	400	3540	3517	4.68	4.68	400	178	115	.26	-.25	7.90	.11
0	480	400	3855	3834	4.68	4.68	400	194	106	.22	-.21	7.90	.12
0	520	400	4169	4150	4.69	4.69	400	211	98	.19	-.18	7.91	.13
0	560	400	4483	4465	4.69	4.69	400	227	91	.16	-.16	7.91	.14
0	360	450	3096	3063	4.98	4.98	450	146	148	.41	-.39	8.41	.10
0	400	450	3430	3400	4.98	4.98	450	162	133	.34	-.32	8.41	.11
0	440	450	3764	3737	4.99	4.99	450	178	121	.28	-.27	8.42	.12
0	480	450	4098	4074	4.99	4.99	450	194	112	.23	-.22	8.42	.14
0	520	450	4432	4409	4.99	4.99	450	211	103	.20	-.19	8.42	.15
0	560	450	4765	4744	4.99	4.99	450	227	96	.17	-.17	8.43	.16
0	360	500	3272	3233	5.27	5.27	500	146	155	.43	-.41	8.89	.11
0	400	500	3624	3590	5.27	5.27	500	162	140	.35	-.34	8.90	.13
0	440	500	3977	3945	5.27	5.27	500	178	128	.29	-.28	8.90	.14
0	480	500	4329	4300	5.28	5.28	500	194	117	.25	-.24	8.91	.15
0	520	500	4681	4654	5.28	5.28	500	211	108	.21	-.20	8.91	.16
0	560	500	5032	5007	5.28	5.28	500	227	101	.18	-.18	8.92	.18
0	360	600	3601	3551	5.81	5.81	600	146	169	.47	-.45	9.80	.14
0	400	600	3987	3941	5.81	5.81	600	162	153	.38	-.37	9.80	.15
0	440	600	4373	4331	5.81	5.81	600	178	139	.32	-.30	9.81	.17
0	480	600	4759	4721	5.82	5.82	600	194	128	.27	-.26	9.82	.18
0	520	600	5144	5109	5.82	5.82	600	211	118	.23	-.22	9.82	.20
0	560	600	5528	5496	5.82	5.82	600	227	110	.20	-.19	9.83	.22
0	360	700	3905	3842	6.30	6.30	700	146	182	.51	-.48	10.63	.16
0	400	700	4321	4264	6.30	6.30	700	162	164	.41	-.39	10.64	.18
0	440	700	4738	4686	6.31	6.31	700	178	150	.34	-.33	10.64	.20
0	480	700	5154	5107	6.31	6.31	700	194	137	.29	-.28	10.65	.22
0	520	700	5571	5526	6.31	6.31	700	211	127	.25	-.24	10.66	.23
0	560	700	5985	5944	6.32	6.32	700	227	118	.21	-.21	10.66	.25
0	360	800	4190	4113	6.76	6.76	800	146	194	.54	-.51	11.41	.19
0	400	800	4634	4565	6.76	6.76	800	162	175	.44	-.42	11.42	.21
0	440	800	5079	5016	6.77	6.77	800	178	159	.37	-.35	11.42	.23
0	480	800	5524	5465	6.77	6.77	800	194	147	.31	-.30	11.43	.25
0	520	800	5968	5914	6.78	6.78	800	211	136	.26	-.25	11.44	.27
0	560	800	6411	6361	6.78	6.78	800	227	126	.23	-.22	11.45	.29
0	360	900	4459	4367	7.19	7.19	900	146	205	.57	-.54	12.14	.21
0	400	900	4929	4846	7.20	7.20	900	162	185	.47	-.44	12.15	.23
0	440	900	5400	5325	7.20	7.20	900	178	169	.39	-.37	12.15	.26
0	480	900	5871	5802	7.21	7.21	900	194	155	.33	-.31	12.16	.28
0	520	900	6342	6278	7.21	7.21	900	211	143	.28	-.27	12.17	.30
0	560	900	6811	6751	7.22	7.22	900	227	133	.24	-.23	12.18	.33
0	360	1000	4714	4607	7.60	7.60	1000	146	215	.60	-.57	12.83	.24
0	400	1000	5209	5112	7.61	7.61	1000	162	194	.49	-.47	12.84	.26
0	440	1000	5705	5617	7.61	7.61	1000	178	177	.41	-.39	12.85	.29
0	480	1000	6201	6119	7.62	7.62	1000	194	163	.34	-.33	12.86	.31
0	520	1000	6696	6621	7.62	7.62	1000	211	151	.29	-.28	12.87	.34
0	560	1000	7189	7120	7.63	7.63	1000	227	140	.26	-.25	12.88	.36

Table 6-11. (Sheet 10)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	RELEASE ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS DRIFT FT/KNOTS	CROSS CRAB FT/KNOTS
0	480	1500	7654	7505	9.42	9.42	1500	194	198	.42	-.40	15.90	.47
0	520	1500	8256	8118	9.43	9.43	1500	211	184	.36	-.35	15.91	.50
0	560	1500	8854	8727	9.44	9.44	1500	227	171	.31	-.30	15.93	.55
0	520	2000	9584	9373	10.96	10.96	2000	211	211	.41	-.40	18.49	.67
0	560	2000	10269	10072	10.97	10.97	2000	227	197	.36	-.35	18.51	.73

Table 6-11. (Sheet 11)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNOTS
10	360	800	2723	2603	4.34	4.24	775	85	126	.81	-.77	7.24
10	400	800	2877	2763	4.15	4.04	772	88	109	.69	-.66	6.91
10	440	800	3015	2907	3.97	3.85	769	91	96	.60	-.57	6.60
10	480	800	3140	3037	3.80	3.68	766	93	85	.53	-.51	6.31
10	520	800	3253	3153	3.65	3.51	763	95	76	.47	-.45	6.04
10	560	800	3354	3257	3.50	3.36	761	96	68	.42	-.41	5.79
10	360	900	2970	2830	4.73	4.63	875	87	136	.84	-.79	7.90
10	400	900	3143	3011	4.53	4.42	872	91	118	.71	-.68	7.55
10	440	900	3299	3174	4.34	4.23	869	95	104	.62	-.59	7.23
10	480	900	3441	3322	4.17	4.05	866	97	92	.54	-.52	6.93
10	520	900	3570	3455	4.00	3.88	863	99	82	.48	-.47	6.65
10	560	900	3686	3575	3.85	3.72	861	101	74	.43	-.42	6.39
10	360	1000	3207	3047	5.10	5.00	975	90	145	.86	-.82	8.53
10	400	1000	3398	3248	4.89	4.79	972	94	126	.73	-.70	8.17
10	440	1000	3573	3430	4.70	4.59	969	98	111	.63	-.61	7.84
10	480	1000	3731	3595	4.52	4.40	966	101	98	.56	-.53	7.53
10	520	1000	3876	3745	4.35	4.22	963	103	88	.49	-.48	7.23
10	560	1000	4007	3880	4.19	4.06	961	105	79	.44	-.43	6.96
10	360	1500	4286	4014	6.76	6.68	1475	99	185	.96	-.91	11.34
10	400	1500	4561	4307	6.53	6.45	1472	105	162	.81	-.78	10.95
10	440	1500	4816	4576	6.32	6.22	1469	110	144	.70	-.67	10.58
10	480	1500	5053	4825	6.11	6.01	1466	115	128	.62	-.59	10.23
10	520	1500	5272	5054	5.91	5.81	1463	119	115	.55	-.53	9.89
10	560	1500	5474	5265	5.73	5.61	1461	122	104	.49	-.47	9.57
10	360	2000	5240	4843	8.19	8.13	1975	104	218	1.03	-.98	13.77
10	400	2000	5587	5217	7.95	7.88	1972	111	193	.88	-.84	13.36
10	440	2000	5914	5566	7.72	7.64	1969	118	172	.76	-.73	12.97
10	480	2000	6221	5891	7.50	7.41	1966	124	154	.67	-.64	12.59
10	520	2000	6508	6194	7.29	7.19	1963	129	139	.59	-.57	12.22
10	560	2000	6776	6474	7.09	6.99	1961	134	126	.53	-.51	11.88
10	400	2500	6525	6027	9.23	9.16	2472	116	220	.94	-.90	15.52
10	440	2500	6916	6448	8.99	8.91	2469	124	196	.81	-.78	15.11
10	480	2500	7285	6843	8.75	8.67	2466	130	177	.71	-.68	14.71
10	520	2500	7635	7214	8.53	8.44	2463	136	160	.63	-.61	14.32
10	560	2500	7961	7558	8.32	8.23	2461	142	146	.56	-.54	13.96
10	440	3000	7847	7251	10.15	10.08	2969	128	219	.85	-.82	17.07
10	480	3000	8274	7711	9.91	9.83	2966	135	197	.75	-.72	16.66
10	520	3000	8680	8145	9.67	9.59	2963	142	179	.66	-.64	16.26
10	560	3000	9061	8549	9.46	9.37	2961	148	164	.59	-.57	15.89
15	360	1000	2693	2501	4.27	4.14	962	68	121	1.01	-.96	7.10
15	400	1000	2811	2627	4.04	3.90	958	70	104	.88	-.84	6.70
15	440	1000	2913	2736	3.82	3.68	954	71	91	.77	-.74	6.33
15	480	1000	3003	2831	3.63	3.48	950	71	80	.68	-.66	5.99
15	520	1000	3081	2914	3.45	3.29	945	71	71	.61	-.59	5.69
15	560	1000	3150	2987	3.29	3.12	941	70	63	.56	-.54	5.40
15	360	1500	3703	3386	5.81	5.70	1462	79	157	1.10	-1.04	9.72
15	400	1500	3885	3584	5.54	5.42	1458	82	136	.95	-.91	9.25
15	440	1500	4048	3759	5.29	5.16	1454	84	119	.83	-.80	8.81
15	480	1500	4193	3916	5.05	4.91	1450	85	105	.74	-.71	8.41
15	520	1500	4324	4055	4.83	4.69	1445	86	94	.66	-.64	8.03
15	560	1500	4440	4179	4.63	4.48	1441	87	84	.60	-.58	7.68

Table 6-11. (Sheet 12)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
15	360	2000	4614	4158	7.17	7.07	1962	86	188	1.16	-1.11	12.02
15	400	2000	4855	4424	6.87	6.76	1958	90	164	1.00	-.96	11.51
15	440	2000	5074	4664	6.59	6.47	1954	93	145	.88	-.84	11.03
15	480	2000	5274	4880	6.32	6.20	1950	96	128	.78	-.75	10.57
15	520	2000	5455	5075	6.08	5.95	1945	98	115	.70	-.67	10.15
15	560	2000	5619	5251	5.85	5.71	1941	99	103	.63	-.61	9.75
15	360	2500	5457	4851	8.40	8.31	2462	91	215	1.22	-1.16	14.10
15	400	2500	5753	5181	8.08	7.98	2458	96	189	1.05	-1.01	13.56
15	440	2500	6025	5482	7.78	7.67	2454	100	167	.92	-.88	13.04
15	480	2500	6275	5756	7.49	7.38	2450	103	149	.81	-.79	12.55
15	520	2500	6505	6005	7.22	7.10	2445	106	134	.73	-.70	12.09
15	560	2500	6714	6231	6.97	6.84	2441	109	121	.66	-.64	11.66
15	360	3000	6252	5485	9.53	9.45	2962	95	240	1.26	-1.21	16.01
15	400	3000	6597	5875	9.20	9.10	2958	101	211	1.09	-1.05	15.44
15	440	3000	6918	6234	8.88	8.78	2954	105	188	.96	-.92	14.90
15	480	3000	7216	6563	8.58	8.47	2950	110	168	.85	-.82	14.39
15	520	3000	7492	6865	8.29	8.18	2945	113	151	.76	-.73	13.90
15	560	3000	7744	7139	8.03	7.91	2941	116	137	.69	-.66	13.44
15	440	4000	8578	7588	10.88	10.79	3954	113	224	1.02	-.98	18.28
15	480	4000	8963	8021	10.55	10.46	3950	119	202	.90	-.87	17.73
15	520	4000	9324	8422	10.24	10.14	3945	123	182	.81	-.78	17.20
15	560	4000	9655	8787	9.96	9.85	3941	128	166	.73	-.71	16.72
15	480	5000	10580	9324	12.34	12.25	4950	125	231	.94	-.91	20.75
15	520	5000	11017	9817	12.01	11.92	4945	131	210	.85	-.82	20.19
15	560	5000	11418	10265	11.72	11.62	4941	136	192	.77	-.75	19.70
25	360	1300	2529	2169	3.97	3.81	1238	47	106	1.38	-1.32	6.56
25	400	1300	2596	2247	3.70	3.53	1232	46	91	1.21	-1.16	6.10
25	440	1300	2652	2311	3.46	3.28	1225	45	78	1.08	-1.04	5.69
25	480	1300	2699	2366	3.25	3.06	1218	44	68	.97	-.94	5.32
25	520	1300	2739	2411	3.05	2.86	1211	43	60	.89	-.86	5.00
25	560	1300	2774	2450	2.88	2.69	1204	42	53	.81	-.79	4.70
25	360	1400	2698	2307	4.22	4.07	1338	48	111	1.39	-1.33	7.00
25	400	1400	2772	2392	3.94	3.78	1332	48	95	1.22	-1.17	6.51
25	440	1400	2834	2464	3.69	3.52	1325	47	82	1.09	-1.05	6.08
25	480	1400	2887	2525	3.47	3.29	1318	46	72	.98	-.95	5.70
25	520	1400	2932	2576	3.27	3.08	1311	45	63	.89	-.86	5.35
25	560	1400	2970	2619	3.09	2.89	1304	44	56	.82	-.79	5.05
25	360	1500	2865	2441	4.47	4.32	1438	50	117	1.40	-1.34	7.42
25	400	1500	2946	2535	4.18	4.02	1432	50	100	1.23	-1.18	6.92
25	440	1500	3014	2615	3.92	3.75	1425	49	86	1.10	-1.06	6.47
25	480	1500	3072	2681	3.69	3.51	1418	49	76	.99	-.95	6.07
25	520	1500	3122	2738	3.47	3.29	1411	48	67	.90	-.87	5.71
25	560	1500	3165	2786	3.29	3.09	1404	46	59	.82	-.80	5.38
25	360	2000	3670	3077	5.66	5.52	1938	57	142	1.44	-1.38	9.44
25	400	2000	3785	3214	5.32	5.17	1932	58	122	1.27	-1.22	8.86
25	440	2000	3885	3331	5.01	4.85	1925	58	106	1.13	-1.09	8.33
25	480	2000	3971	3431	4.74	4.57	1918	57	93	1.02	-.98	7.85
25	520	2000	4046	3517	4.48	4.31	1911	57	82	.93	-.90	7.42
25	560	2000	4111	3591	4.25	4.07	1904	56	73	.85	-.82	7.03

Table 6-11. (Sheet 13)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
25	360	2500	4434	3661	6.76	6.63	2438	63	164	1.47	-1.41	11.30
25	400	2500	4583	3841	6.38	6.24	2432	64	142	1.30	-1.25	10.65
25	440	2500	4714	3997	6.04	5.89	2425	64	124	1.16	-1.12	10.07
25	480	2500	4829	4132	5.72	5.56	2418	65	109	1.04	-1.01	9.53
25	520	2500	4930	4249	5.43	5.27	2411	64	97	.95	-.92	9.03
25	560	2500	5018	4351	5.17	5.00	2404	64	86	.87	-.84	8.59
25	360	3000	5165	4205	7.79	7.66	2938	67	185	1.50	-1.44	13.04
25	400	3000	5348	4427	7.38	7.25	2932	69	160	1.32	-1.27	12.34
25	440	3000	5510	4621	7.01	6.86	2925	70	141	1.18	-1.14	11.70
25	480	3000	5653	4792	6.66	6.51	2918	71	124	1.06	-1.03	11.11
25	520	3000	5781	4941	6.34	6.18	2911	71	110	.97	-.94	10.57
25	560	3000	5892	5071	6.06	5.89	2904	71	99	.89	-.86	10.08
25	360	4000	6557	5196	9.67	9.56	3938	74	221	1.54	-1.49	16.23
25	400	4000	6801	5501	9.22	9.10	3932	77	193	1.37	-1.32	15.46
25	440	4000	7022	5772	8.80	8.67	3925	79	171	1.22	-1.18	14.74
25	480	4000	7222	6013	8.41	8.27	3918	81	152	1.12	-1.06	14.07
25	520	4000	7401	6227	8.04	7.89	3911	82	135	1.00	-.97	13.45
25	560	4000	7560	6415	7.72	7.56	3904	82	122	.92	-.89	12.89
25	360	5000	7879	6089	11.39	11.29	4938	80	252	1.57	-1.52	19.14
25	400	5000	8179	6473	10.90	10.79	4932	83	222	1.40	-1.35	18.31
25	440	5000	8455	6818	10.45	10.33	4925	86	197	1.25	-1.21	17.53
25	480	5000	8707	7128	10.02	9.89	4918	88	176	1.13	-1.09	16.80
25	520	5000	8937	7407	9.62	9.48	4911	90	158	1.03	-1.00	16.12
25	560	5000	9141	7652	9.27	9.12	4904	91	143	.94	-.92	15.52
25	400	6000	9501	7367	12.46	12.36	5932	88	248	1.42	-1.37	20.94
25	440	6000	9827	7783	11.98	11.87	5925	91	221	1.27	-1.23	20.12
25	480	6000	10129	8161	11.52	11.40	5918	94	198	1.15	-1.12	19.34
25	520	6000	10406	8502	11.10	10.97	5911	97	179	1.05	-1.02	18.62
25	560	6000	10652	8802	10.74	10.60	5904	99	163	.97	-.94	18.00
30	360	1700	2875	2319	4.46	4.30	1627	43	111	1.56	-1.50	7.39
30	400	1700	2940	2399	4.15	3.98	1619	42	95	1.38	-1.33	6.86
30	440	1700	2995	2465	3.88	3.70	1611	42	82	1.24	-1.20	6.39
30	480	1700	3040	2521	3.63	3.45	1603	41	72	1.12	-1.09	5.98
30	520	1700	3079	2567	3.42	3.22	1595	40	63	1.03	-1.00	5.60
30	560	1700	3112	2607	3.22	3.02	1587	38	56	.94	-.92	5.27
30	360	1800	3026	2432	4.68	4.52	1727	44	116	1.57	-1.51	7.77
30	400	1800	3096	2519	4.36	4.19	1719	44	99	1.39	-1.34	7.22
30	440	1800	3155	2591	4.08	3.90	1711	43	85	1.25	-1.20	6.73
30	480	1800	3205	2651	3.83	3.64	1703	42	75	1.13	-1.09	6.30
30	520	1800	3247	2702	3.60	3.41	1695	41	66	1.03	-1.00	5.91
30	560	1800	3283	2745	3.40	3.20	1687	40	58	.95	-.92	5.57
30	360	1900	3175	2544	4.90	4.74	1827	46	120	1.57	-1.51	8.14
30	400	1900	3250	2637	4.57	4.40	1819	45	103	1.40	-1.34	7.57
30	440	1900	3314	2715	4.28	4.10	1811	45	89	1.25	-1.21	7.07
30	480	1900	3368	2780	4.01	3.83	1803	44	78	1.13	-1.10	6.62
30	520	1900	3413	2836	3.78	3.59	1795	43	68	1.04	-1.00	6.22
30	560	1900	3452	2883	3.57	3.37	1787	42	61	.95	-.93	5.86
30	360	2000	3323	2654	5.12	4.96	1927	47	124	1.58	-1.52	8.50
30	400	2000	3403	2754	4.78	4.61	1919	46	106	1.40	-1.35	7.92
30	440	2000	3471	2837	4.47	4.30	1911	46	92	1.26	-1.21	7.40
30	480	2000	3529	2908	4.20	4.02	1903	45	81	1.14	-1.10	6.94
30	520	2000	3579	2968	3.96	3.77	1895	44	71	1.04	-1.01	6.52
30	560	2000	3621	3018	3.74	3.55	1887	43	63	.96	-.93	6.15

Table 6-11. (Sheet 14)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNOTS
30	360	2500	4045	3180	6.15	6.00	2427	52	144	1.61	-1.54	10.26
30	400	2500	4152	3315	5.77	5.61	2419	52	124	1.43	-1.37	9.60
30	440	2500	4243	3428	5.42	5.26	2411	52	108	1.28	-1.24	9.01
30	480	2500	4322	3526	5.11	4.94	2403	51	95	1.16	-1.12	8.48
30	520	2500	4390	3609	4.83	4.65	2395	51	84	1.06	-1.03	8.00
30	560	2500	4449	3680	4.58	4.39	2387	50	74	.97	-.95	7.57
30	360	3000	4743	3673	7.13	6.99	2927	57	163	1.63	-1.56	11.91
30	400	3000	4875	3843	6.71	6.56	2919	57	141	1.44	-1.39	11.19
30	440	3000	4990	3988	6.33	6.17	2911	57	123	1.30	-1.25	10.54
30	480	3000	5090	4112	5.98	5.81	2903	57	108	1.18	-1.14	9.95
30	520	3000	5178	4220	5.67	5.49	2895	56	96	1.07	-1.04	9.42
30	560	3000	5253	4312	5.38	5.20	2887	56	85	.99	-.96	8.94
30	360	3500	5420	4139	8.05	7.92	3427	60	180	1.64	-1.58	13.47
30	400	3500	5578	4343	7.60	7.46	3419	61	156	1.46	-1.41	12.71
30	440	3500	5716	4519	7.19	7.04	3411	62	136	1.31	-1.27	12.01
30	480	3500	5838	4672	6.81	6.65	3403	62	120	1.19	-1.15	11.37
30	520	3500	5945	4805	6.47	6.30	3395	62	107	1.09	-1.06	10.78
30	560	3500	6038	4920	6.17	5.99	3387	61	96	1.00	-.97	10.26
30	360	4000	6081	4581	8.93	8.80	3927	63	195	1.65	-1.59	14.97
30	400	4000	6263	4819	8.46	8.32	3919	65	170	1.47	-1.42	14.16
30	440	4000	6424	5027	8.02	7.87	3911	66	150	1.32	-1.28	13.41
30	480	4000	6567	5209	7.62	7.46	3903	66	132	1.20	-1.17	12.73
30	520	4000	6694	5368	7.25	7.09	3895	66	118	1.10	-1.07	12.10
30	560	4000	6805	5505	6.92	6.75	3887	66	106	1.01	-.99	11.54
30	360	4500	6728	5002	9.77	9.65	4427	66	210	1.66	-1.60	16.39
30	400	4500	6933	5274	9.28	9.14	4419	68	184	1.48	-1.43	15.55
30	440	4500	7117	5514	8.82	8.68	4411	69	162	1.34	-1.29	14.76
30	480	4500	7281	5724	8.39	8.24	4403	70	144	1.21	-1.18	14.04
30	520	4500	7428	5909	8.00	7.84	4395	70	128	1.11	-1.08	13.37
30	560	4500	7556	6069	7.66	7.49	4387	71	115	1.02	-1.00	12.79
30	360	5000	7363	5405	10.58	10.47	4927	69	224	1.67	-1.61	17.77
30	400	5000	7590	5711	10.07	9.94	4919	71	196	1.49	-1.44	16.88
30	440	5000	7796	5981	9.59	9.45	4911	73	174	1.35	-1.30	16.07
30	480	5000	7981	6220	9.14	9.00	4903	74	154	1.22	-1.19	15.31
30	520	5000	8147	6432	8.73	8.58	4895	74	138	1.12	-1.09	14.61
30	560	5000	8292	6615	8.37	8.21	4887	75	124	1.03	-1.01	14.00
30	360	6000	8602	6165	12.12	12.01	5927	73	249	1.68	-1.63	20.36
30	400	6000	8873	6536	11.57	11.45	5919	76	220	1.51	-1.46	19.43
30	440	6000	9120	6868	11.05	10.93	5911	78	195	1.36	-1.32	18.55
30	480	6000	9345	7164	10.57	10.44	5903	80	174	1.24	-1.20	17.73
30	520	6000	9548	7427	10.13	9.99	5895	81	157	1.14	-1.10	16.98
30	560	6000	9726	7655	9.76	9.60	5887	82	142	1.05	-1.02	16.34
30	400	7000	10120	7308	12.98	12.87	6919	80	241	1.52	-1.47	21.82
30	440	7000	10406	7699	12.44	12.32	6911	82	215	1.37	-1.33	20.89
30	480	7000	10668	8051	11.93	11.80	6903	85	193	1.25	-1.22	20.03
30	520	7000	10908	8365	11.47	11.33	6895	86	174	1.15	-1.12	19.24
30	560	7000	11117	8636	11.08	10.93	6887	88	158	1.07	-1.04	18.58
30	440	8000	11661	8484	13.76	13.64	7911	86	233	1.38	-1.34	23.12
30	480	8000	11959	8890	13.23	13.10	7903	89	210	1.26	-1.23	22.22
30	520	8000	12232	9253	12.75	12.62	7895	91	190	1.16	-1.13	21.41
30	560	8000	12470	9566	12.36	12.22	7887	94	173	1.08	-1.05	20.74

Table 6-11. (Sheet 15)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
45	360	2300	2992	1913	4.55	4.37	2197	28	94	1.98	-1.91	7.53
45	400	2300	3026	1967	4.21	4.02	2185	28	80	1.78	-1.73	6.94
45	440	2300	3055	2010	3.90	3.71	2174	27	69	1.61	-1.57	6.43
45	480	2300	3078	2046	3.64	3.44	2163	26	60	1.48	-1.44	5.97
45	520	2300	3098	2075	3.41	3.20	2151	25	53	1.36	-1.33	5.57
45	560	2300	3114	2099	3.20	2.99	2140	24	47	1.26	-1.23	5.22
45	360	2400	3115	1985	4.73	4.55	2297	29	96	1.98	-1.91	7.83
45	400	2400	3151	2042	4.37	4.18	2285	28	82	1.78	-1.73	7.22
45	440	2400	3181	2089	4.06	3.86	2274	28	71	1.62	-1.57	6.69
45	480	2400	3207	2127	3.79	3.58	2263	27	62	1.48	-1.44	6.22
45	520	2400	3228	2158	3.54	3.34	2251	26	55	1.36	-1.33	5.81
45	560	2400	3245	2184	3.33	3.12	2240	25	49	1.26	-1.23	5.45
45	360	2500	3237	2057	4.90	4.72	2397	30	99	1.98	-1.92	8.12
45	400	2500	3276	2117	4.53	4.35	2385	29	85	1.78	-1.73	7.49
45	440	2500	3308	2166	4.21	4.02	2374	28	73	1.62	-1.57	6.95
45	480	2500	3335	2207	3.93	3.73	2363	27	64	1.48	-1.44	6.47
45	520	2500	3357	2241	3.68	3.48	2351	26	56	1.36	-1.33	6.04
45	560	2500	3376	2269	3.46	3.25	2340	26	50	1.26	-1.24	5.67
45	360	3000	3844	2404	5.74	5.57	2897	33	111	1.98	-1.92	9.54
45	400	3000	3894	2482	5.33	5.15	2885	33	96	1.78	-1.73	8.84
45	440	3000	3935	2547	4.97	4.78	2874	32	83	1.62	-1.58	8.22
45	480	3000	3970	2601	4.64	4.45	2863	31	73	1.48	-1.45	7.68
45	520	3000	4000	2646	4.36	4.16	2851	30	64	1.37	-1.34	7.19
45	560	3000	4025	2683	4.11	3.90	2840	29	57	1.27	-1.24	6.76
45	360	3500	4442	2736	6.55	6.38	3397	36	123	1.97	-1.91	10.91
45	400	3500	4503	2834	6.10	5.92	3385	36	106	1.78	-1.73	10.14
45	440	3500	4555	2915	5.70	5.51	3374	35	92	1.62	-1.58	9.46
45	480	3500	4598	2982	5.34	5.15	3363	34	81	1.49	-1.45	8.85
45	520	3500	4636	3040	5.02	4.82	3351	33	72	1.37	-1.34	8.31
45	560	3500	4667	3087	4.74	4.54	3340	32	64	1.28	-1.25	7.83
45	360	4000	5033	3055	7.33	7.17	3897	39	134	1.97	-1.91	12.23
45	400	4000	5105	3172	6.84	6.67	3885	38	116	1.78	-1.73	11.40
45	440	4000	5167	3270	6.40	6.23	3874	38	101	1.62	-1.58	10.66
45	480	4000	5219	3353	6.01	5.83	3863	37	89	1.49	-1.45	10.00
45	520	4000	5264	3423	5.67	5.47	3851	36	79	1.38	-1.34	9.40
45	560	4000	5303	3481	5.36	5.16	3840	36	70	1.28	-1.25	8.88
45	360	4500	5617	3362	8.08	7.93	4397	41	145	1.96	-1.90	13.51
45	400	4500	5700	3499	7.56	7.40	4385	41	126	1.78	-1.73	12.62
45	440	4500	5772	3615	7.09	6.92	4374	41	110	1.62	-1.58	11.83
45	480	4500	5834	3712	6.67	6.49	4363	40	97	1.49	-1.46	11.11
45	520	4500	5887	3796	6.30	6.11	4351	39	86	1.38	-1.35	10.47
45	560	4500	5932	3866	5.97	5.78	4340	39	77	1.28	-1.26	9.92
45	360	5000	6195	3658	8.81	8.66	4897	43	155	1.95	-1.90	14.75
45	400	5000	6290	3816	8.26	8.10	4885	43	135	1.77	-1.73	13.81
45	440	5000	6371	3949	7.77	7.60	4874	43	118	1.62	-1.58	12.97
45	480	5000	6442	4062	7.32	7.14	4863	43	104	1.49	-1.46	12.20
45	520	5000	6504	4159	6.92	6.73	4851	42	92	1.38	-1.35	11.52
45	560	5000	6556	4241	6.57	6.38	4840	41	83	1.29	-1.26	10.93
45	360	6000	7337	4223	10.21	10.07	5897	47	173	1.94	-1.89	17.11
45	400	6000	7453	4421	9.61	9.46	5885	47	151	1.76	-1.72	16.09
45	440	6000	7555	4590	9.06	8.90	5874	47	133	1.62	-1.58	15.16
45	480	6000	7644	4736	8.57	8.40	5863	47	118	1.49	-1.46	14.32
45	520	6000	7722	4862	8.12	7.95	5851	47	105	1.38	-1.35	13.56
45	560	6000	7789	4967	7.74	7.56	5840	46	95	1.29	-1.27	12.91

Table 6-11. (Sheet 16)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
45	360	7000	8462	4755	11.53	11.40	6897	50	189	1.92	-1.87	19.35
45	400	7000	8599	4993	10.89	10.75	6885	51	167	1.75	-1.71	18.26
45	440	7000	8720	5200	10.30	10.15	6874	51	147	1.61	-1.57	17.26
45	480	7000	8828	5378	9.77	9.60	6863	51	131	1.49	-1.45	16.34
45	520	7000	8923	5533	9.29	9.12	6851	51	117	1.38	-1.35	15.53
45	560	7000	9004	5662	8.88	8.70	6840	51	106	1.30	-1.27	14.84
45	360	8000	9574	5260	12.80	12.67	7897	52	204	1.90	-1.85	21.49
45	400	8000	9730	5538	12.12	11.98	7885	54	181	1.74	-1.70	20.33
45	440	8000	9870	5781	11.49	11.34	7874	54	160	1.60	-1.57	19.27
45	480	8000	9996	5993	10.92	10.76	7863	55	143	1.48	-1.45	18.30
45	520	8000	10107	6176	10.42	10.25	7851	55	129	1.38	-1.35	17.44
45	560	8000	10202	6330	10.00	9.82	7840	55	117	1.30	-1.27	16.72
45	360	9000	10675	5741	14.01	13.88	8897	55	218	1.88	-1.84	23.54
45	400	9000	10849	6059	13.29	13.16	8885	56	194	1.73	-1.69	22.33
45	440	9000	11008	6338	12.64	12.50	8874	57	172	1.59	-1.56	21.21
45	480	9000	11150	6583	12.04	11.89	8863	58	154	1.48	-1.45	20.20
45	520	9000	11277	6795	11.52	11.36	8851	59	139	1.38	-1.35	19.31
45	560	9000	11385	6973	11.08	10.91	8840	59	127	1.30	-1.28	18.56
45	360	10000	11766	6201	15.17	15.05	9897	57	231	1.87	-1.82	25.50
45	400	10000	11958	6558	14.43	14.30	9885	59	206	1.72	-1.68	24.25
45	440	10000	12134	6873	13.75	13.61	9874	60	184	1.59	-1.55	23.09
45	480	10000	12293	7150	13.13	12.98	9863	61	165	1.48	-1.44	22.04
45	520	10000	12435	7391	12.60	12.44	9851	62	149	1.38	-1.35	21.12
45	560	10000	12555	7592	12.15	11.98	9840	63	137	1.31	-1.28	20.37
60	360	3000	3333	1452	4.96	4.78	2874	19	74	2.25	-2.20	8.22
60	400	3000	3350	1491	4.57	4.38	2860	18	64	2.05	-2.01	7.56
60	440	3000	3364	1523	4.24	4.04	2846	18	56	1.87	-1.84	6.98
60	480	3000	3376	1548	3.94	3.73	2832	17	49	1.73	-1.70	6.48
60	520	3000	3386	1569	3.68	3.47	2818	17	43	1.60	-1.57	6.04
60	560	3000	3394	1587	3.46	3.24	2804	16	39	1.49	-1.47	5.65
60	360	4000	4413	1865	6.40	6.22	3874	23	89	2.22	-2.17	10.65
60	400	4000	4439	1924	5.93	5.74	3860	22	77	2.02	-1.99	9.85
60	440	4000	4460	1972	5.51	5.32	3846	21	67	1.86	-1.83	9.14
60	480	4000	4478	2012	5.15	4.95	3832	21	59	1.72	-1.69	8.52
60	520	4000	4493	2046	4.82	4.62	3818	20	52	1.60	-1.57	7.97
60	560	4000	4506	2074	4.54	4.33	3804	20	47	1.49	-1.47	7.49
60	360	5000	5484	2252	7.76	7.59	4874	25	102	2.18	-2.14	12.95
60	400	5000	5517	2333	7.21	7.04	4860	25	88	2.00	-1.96	12.03
60	440	5000	5546	2400	6.73	6.55	4846	25	77	1.84	-1.81	11.21
60	480	5000	5571	2456	6.30	6.11	4832	24	68	1.71	-1.68	10.48
60	520	5000	5592	2504	5.93	5.73	4818	23	60	1.59	-1.56	9.83
60	560	5000	5609	2543	5.60	5.40	4804	23	54	1.49	-1.47	9.28
60	360	6000	6546	2618	9.05	8.89	5874	28	113	2.14	-2.10	15.14
60	400	6000	6588	2722	8.45	8.28	5860	28	99	1.97	-1.94	14.11
60	440	6000	6625	2809	7.91	7.73	5846	27	87	1.82	-1.79	13.19
60	480	6000	6656	2882	7.42	7.24	5832	27	77	1.69	-1.67	12.37
60	520	6000	6683	2944	7.00	6.81	5818	26	68	1.58	-1.56	11.65
60	560	6000	6706	2996	6.64	6.44	5804	26	61	1.49	-1.46	11.03
60	360	7000	7602	2965	10.28	10.13	6874	30	124	2.11	-2.07	17.23
60	400	7000	7653	3093	9.63	9.46	6860	30	108	1.94	-1.91	16.11
60	440	7000	7697	3200	9.04	8.87	6846	30	96	1.80	-1.77	15.11
60	480	7000	7735	3292	8.51	8.33	6832	30	85	1.68	-1.65	14.21
60	520	7000	7769	3369	8.04	7.86	6818	29	76	1.57	-1.55	13.42
60	560	7000	7797	3433	7.65	7.45	6804	29	68	1.48	-1.46	12.75

Table 6-11. (Sheet 17)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 60 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
60	360	8000	8653	3297	11.47	11.32	7874	32	133	2.07	-2.04	19.23
60	400	8000	8712	3448	10.77	10.61	7860	32	117	1.92	-1.89	18.04
60	440	8000	8763	3577	10.13	9.97	7846	32	104	1.78	-1.76	16.96
60	480	8000	8809	3687	9.56	9.39	7832	32	92	1.66	-1.64	15.99
60	520	8000	8848	3780	9.07	8.88	7818	32	83	1.56	-1.54	15.15
60	560	8000	8881	3857	8.65	8.46	7804	31	75	1.48	-1.46	14.43
60	360	9000	9699	3615	12.61	12.47	8874	34	142	2.04	-2.01	21.16
60	400	9000	9765	3790	11.87	11.71	8860	34	126	1.89	-1.87	19.90
60	440	9000	9824	3940	11.19	11.03	8846	34	112	1.76	-1.74	18.76
60	480	9000	9877	4068	10.59	10.42	8832	34	100	1.65	-1.63	17.73
60	520	9000	9922	4177	10.07	9.89	8818	34	90	1.55	-1.53	16.84
60	560	9000	9961	4268	9.63	9.44	8804	34	81	1.47	-1.45	16.10
60	360	10000	10741	3921	13.71	13.57	9874	35	151	2.01	-1.98	23.02
60	400	10000	10815	4119	12.93	12.78	9860	36	133	1.87	-1.84	21.70
60	440	10000	10881	4290	12.23	12.07	9846	36	119	1.75	-1.72	20.50
60	480	10000	10940	4437	11.60	11.43	9832	36	107	1.64	-1.61	19.44
60	520	10000	10992	4563	11.05	10.88	9818	36	96	1.54	-1.52	18.51
60	560	10000	11035	4666	10.60	10.41	9804	36	88	1.47	-1.45	17.73
60	360	11000	11780	4215	14.78	14.64	10874	36	158	1.98	-1.95	24.83
60	400	11000	11861	4437	13.97	13.82	10860	37	141	1.85	-1.82	23.45
60	440	11000	11934	4629	13.24	13.08	10846	38	126	1.73	-1.70	22.21
60	480	11000	12000	4795	12.59	12.42	10832	38	113	1.62	-1.60	21.10
60	520	11000	12057	4936	12.02	11.85	10818	38	102	1.54	-1.52	20.15
60	560	11000	12105	5053	11.56	11.37	10804	39	93	1.46	-1.44	19.35
60	360	12000	12816	4500	15.81	15.68	11874	38	165	1.96	-1.93	26.58
60	400	12000	12904	4745	14.98	14.84	11860	39	148	1.83	-1.80	25.16
60	440	12000	12984	4958	14.22	14.07	11846	39	132	1.71	-1.69	23.88
60	480	12000	13055	5142	13.56	13.39	11832	40	119	1.61	-1.59	22.74
60	520	12000	13118	5299	12.98	12.81	11818	40	108	1.53	-1.51	21.76
60	560	12000	13171	5429	12.50	12.32	11804	41	99	1.46	-1.44	20.95

Table 6-11. (Sheet 18)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS DRIFT FT/KNCTS	CROSS CRAB FT/KNCTS
0	360	350	2700	2677	4.35	4.35	350	122	132	.37	-.35	7.35	.08
0	400	350	2993	2973	4.35	4.35	350	135	119	.30	-.29	7.35	.09
0	440	350	3286	3268	4.36	4.36	350	149	109	.25	-.24	7.35	.10
0	480	350	3579	3562	4.36	4.36	350	162	100	.21	-.20	7.36	.10
0	520	350	3872	3856	4.36	4.36	350	176	92	.18	-.17	7.36	.11
0	560	350	4164	4149	4.36	4.36	350	189	86	.15	-.15	7.36	.12
0	360	400	2898	2870	4.68	4.68	400	122	141	.39	-.37	7.89	.09
0	400	400	3211	3186	4.68	4.68	400	135	127	.32	-.30	7.90	.10
0	440	400	3525	3502	4.68	4.68	400	149	115	.26	-.25	7.90	.11
0	480	400	3839	3818	4.68	4.68	400	162	106	.22	-.21	7.90	.12
0	520	400	4152	4133	4.69	4.69	400	176	98	.19	-.18	7.91	.13
0	560	400	4464	4446	4.69	4.69	400	189	91	.16	-.16	7.91	.14
0	360	450	3084	3051	4.98	4.98	450	122	149	.42	-.39	8.41	.10
0	400	450	3416	3387	4.98	4.98	450	135	134	.34	-.32	8.41	.11
0	440	450	3749	3722	4.99	4.99	450	149	122	.28	-.27	8.42	.12
0	480	450	4082	4057	4.99	4.99	450	162	112	.24	-.23	8.42	.14
0	520	450	4415	4392	4.99	4.99	450	176	103	.20	-.19	8.42	.15
0	560	450	4746	4725	4.99	4.99	450	189	96	.17	-.17	8.43	.16
0	360	500	3260	3221	5.27	5.27	500	122	156	.44	-.41	8.89	.11
0	400	500	3611	3576	5.27	5.27	500	135	141	.36	-.34	8.90	.13
0	440	500	3962	3930	5.27	5.27	500	149	128	.29	-.28	8.90	.14
0	480	500	4313	4284	5.28	5.28	500	162	118	.25	-.24	8.91	.15
0	520	500	4664	4637	5.28	5.28	500	176	109	.21	-.20	8.91	.16
0	560	500	5013	4988	5.28	5.28	500	189	101	.18	-.18	8.92	.18
0	360	600	3589	3538	5.81	5.81	600	122	170	.48	-.45	9.80	.14
0	400	600	3973	3928	5.81	5.81	600	135	153	.39	-.37	9.80	.15
0	440	600	4358	4316	5.81	5.81	600	149	140	.32	-.31	9.81	.17
0	480	600	4742	4704	5.82	5.82	600	162	128	.27	-.26	9.82	.18
0	520	600	5127	5092	5.82	5.82	600	176	119	.23	-.22	9.82	.20
0	560	600	5510	5477	5.82	5.82	600	189	110	.20	-.19	9.83	.22
0	360	700	3893	3830	6.30	6.30	700	122	183	.51	-.48	10.63	.16
0	400	700	4308	4251	6.30	6.30	700	135	165	.42	-.40	10.64	.18
0	440	700	4723	4671	6.31	6.31	700	149	150	.35	-.33	10.64	.20
0	480	700	5138	5090	6.31	6.31	700	162	138	.29	-.28	10.65	.22
0	520	700	5553	5509	6.31	6.31	700	176	128	.25	-.24	10.66	.23
0	560	700	5966	5925	6.32	6.32	700	189	119	.22	-.21	10.66	.25
0	360	800	4178	4101	6.76	6.76	800	122	194	.54	-.51	11.41	.19
0	400	800	4621	4551	6.76	6.76	800	135	175	.44	-.42	11.42	.21
0	440	800	5064	5001	6.77	6.77	800	149	160	.37	-.35	11.42	.23
0	480	800	5508	5449	6.77	6.77	800	162	147	.31	-.30	11.43	.25
0	520	800	5951	5897	6.78	6.78	800	176	136	.27	-.26	11.44	.27
0	560	800	6392	6342	6.78	6.78	800	189	126	.23	-.22	11.45	.29
0	360	900	4447	4355	7.19	7.19	900	122	205	.57	-.54	12.14	.21
0	400	900	4916	4833	7.20	7.20	900	135	185	.47	-.45	12.15	.23
0	440	900	5385	5310	7.20	7.20	900	149	169	.39	-.37	12.15	.26
0	480	900	5855	5786	7.21	7.21	900	162	155	.33	-.32	12.16	.28
0	520	900	6325	6260	7.21	7.21	900	176	144	.28	-.27	12.17	.30
0	560	900	6792	6732	7.22	7.22	900	189	134	.24	-.24	12.18	.33
0	360	1000	4702	4595	7.60	7.60	1000	122	216	.60	-.57	12.83	.24
0	400	1000	5196	5099	7.61	7.61	1000	135	195	.49	-.47	12.84	.26
0	440	1000	5690	5602	7.61	7.61	1000	149	178	.41	-.39	12.85	.29
0	480	1000	6185	6103	7.62	7.62	1000	162	163	.35	-.33	12.86	.31
0	520	1000	6679	6604	7.62	7.62	1000	176	151	.30	-.29	12.87	.34
0	560	1000	7171	7101	7.63	7.63	1000	189	141	.26	-.25	12.88	.36
0	480	1500	7638	7489	9.42	9.42	1500	162	199	.42	-.40	15.90	.47
0	520	1500	8239	8101	9.43	9.43	1500	176	184	.36	-.35	15.91	.50
0	560	1500	8836	8708	9.44	9.44	1500	189	171	.31	-.30	15.93	.55
0	520	2000	9567	9356	10.96	10.96	2000	176	211	.41	-.40	18.49	.67
0	560	2000	10250	10053	10.97	10.97	2000	189	197	.36	-.35	18.51	.73

Table 6-11. (Sheet 19)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
10	360	800	2716	2595	4.34	4.25	779	71	127	.82	-.78	7.25
10	400	800	2870	2756	4.15	4.06	777	74	110	.70	-.66	6.92
10	440	800	3008	2900	3.97	3.87	774	76	97	.60	-.58	6.62
10	480	800	3133	3029	3.80	3.70	772	78	86	.53	-.51	6.33
10	520	800	3245	3145	3.65	3.54	770	79	76	.47	-.46	6.06
10	560	800	3346	3249	3.50	3.39	767	80	69	.43	-.41	5.81
10	360	900	2963	2823	4.73	4.65	879	73	136	.84	-.80	7.91
10	400	900	3135	3003	4.53	4.44	877	76	119	.72	-.68	7.57
10	440	900	3292	3166	4.34	4.25	874	79	104	.62	-.60	7.25
10	480	900	3434	3314	4.17	4.07	872	81	92	.55	-.53	6.95
10	520	900	3562	3446	4.00	3.90	870	83	83	.49	-.47	6.67
10	560	900	3678	3566	3.85	3.74	867	84	74	.44	-.42	6.41
10	360	1000	3200	3040	5.10	5.02	979	75	145	.86	-.82	8.54
10	400	1000	3391	3240	4.89	4.81	977	79	127	.74	-.70	8.19
10	440	1000	3565	3422	4.70	4.61	974	82	112	.64	-.61	7.86
10	480	1000	3723	3587	4.52	4.42	972	84	99	.56	-.54	7.55
10	520	1000	3868	3736	4.35	4.24	970	86	89	.50	-.48	7.25
10	560	1000	3998	3871	4.19	4.08	967	88	80	.45	-.43	6.98
10	360	1500	4278	4006	6.76	6.69	1479	82	185	.96	-.91	11.35
10	400	1500	4552	4298	6.53	6.46	1477	87	163	.82	-.78	10.96
10	440	1500	4807	4567	6.32	6.24	1474	92	144	.71	-.68	10.59
10	480	1500	5044	4815	6.11	6.03	1472	96	129	.62	-.60	10.24
10	520	1500	5263	5045	5.91	5.82	1470	99	116	.55	-.53	9.90
10	560	1500	5465	5255	5.73	5.63	1467	102	105	.49	-.48	9.59
10	360	2000	5232	4835	8.19	8.14	1979	87	219	1.04	-.99	13.78
10	400	2000	5579	5208	7.95	7.89	1977	93	193	.88	-.84	13.37
10	440	2000	5905	5556	7.72	7.65	1974	98	172	.76	-.73	12.98
10	480	2000	6211	5880	7.50	7.43	1972	103	154	.67	-.64	12.60
10	520	2000	6498	6183	7.29	7.21	1970	107	139	.59	-.57	12.23
10	560	2000	6765	6463	7.09	7.00	1967	111	127	.53	-.51	11.89
10	400	2500	6516	6018	9.23	9.17	2477	97	220	.94	-.90	15.53
10	440	2500	6906	6438	8.99	8.93	2474	103	197	.81	-.78	15.12
10	480	2500	7275	6832	8.75	8.69	2472	109	177	.71	-.68	14.72
10	520	2500	7624	7202	8.53	8.46	2470	114	160	.63	-.61	14.34
10	560	2500	7950	7547	8.32	8.24	2467	118	146	.56	-.55	13.98
10	440	3000	7837	7240	10.15	10.09	2974	107	219	.85	-.82	17.08
10	480	3000	8263	7699	9.91	9.84	2972	113	198	.75	-.72	16.67
10	520	3000	8669	8133	9.67	9.61	2970	118	180	.66	-.64	16.27
10	560	3000	9049	8537	9.46	9.38	2967	124	164	.59	-.57	15.90
15	360	1000	2688	2495	4.27	4.16	969	57	122	1.02	-.97	7.12
15	400	1000	2805	2621	4.04	3.92	965	58	105	.88	-.84	6.72
15	440	1000	2907	2730	3.82	3.70	962	59	91	.77	-.74	6.35
15	480	1000	2997	2825	3.63	3.50	958	59	80	.69	-.66	6.02
15	520	1000	3076	2908	3.45	3.32	955	59	71	.62	-.60	5.71
15	560	1000	3145	2981	3.29	3.15	951	59	64	.56	-.54	5.43
15	360	1500	3697	3379	5.81	5.72	1469	66	158	1.10	-1.05	9.73
15	400	1500	3879	3577	5.54	5.44	1465	68	137	.95	-.91	9.27
15	440	1500	4041	3752	5.29	5.18	1462	70	120	.83	-.80	8.83
15	480	1500	4187	3909	5.05	4.94	1458	71	106	.74	-.71	8.43
15	520	1500	4317	4048	4.83	4.71	1455	72	94	.66	-.64	8.05
15	560	1500	4433	4172	4.63	4.50	1451	73	85	.60	-.58	7.70

Table 6-11. (Sheet 20)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
15	360	2000	4607	4151	7.17	7.09	1969	72	189	1.17	-1.11	12.03
15	400	2000	4848	4416	6.87	6.78	1965	75	165	1.01	-.96	11.52
15	440	2000	5067	4656	6.59	6.49	1962	78	145	.88	-.85	11.04
15	480	2000	5267	4872	6.32	6.22	1958	80	129	.78	-.75	10.59
15	520	2000	5448	5067	6.08	5.97	1955	81	115	.70	-.68	10.16
15	560	2000	5611	5242	5.85	5.73	1951	83	104	.63	-.61	9.77
15	360	2500	5451	4844	8.40	8.32	2469	76	216	1.22	-1.17	14.11
15	400	2500	5746	5173	8.08	8.00	2465	80	190	1.05	-1.01	13.57
15	440	2500	6017	5473	7.78	7.69	2462	83	168	.92	-.89	13.05
15	480	2500	6267	5747	7.49	7.40	2458	86	150	.82	-.79	12.57
15	520	2500	6497	5996	7.22	7.12	2455	89	134	.73	-.71	12.10
15	560	2500	6705	6222	6.97	6.87	2451	91	121	.66	-.64	11.68
15	360	3000	6245	5477	9.53	9.46	2969	79	240	1.27	-1.21	16.02
15	400	3000	6589	5867	9.20	9.12	2965	84	212	1.09	-1.05	15.46
15	440	3000	6910	6225	8.88	8.80	2962	88	188	.96	-.92	14.92
15	480	3000	7207	6553	8.58	8.49	2958	91	168	.85	-.82	14.40
15	520	3000	7483	6855	8.29	8.20	2955	94	152	.76	-.74	13.91
15	560	3000	7735	7129	8.03	7.93	2951	97	137	.69	-.67	13.46
15	440	4000	8570	7579	10.88	10.80	3962	95	225	1.02	-.98	18.30
15	480	4000	8954	8011	10.55	10.47	3958	99	202	.90	-.87	17.74
15	520	4000	9314	8412	10.24	10.16	3955	103	183	.81	-.78	17.21
15	560	4000	9645	8777	9.96	9.87	3951	107	166	.73	-.71	16.74
15	480	5000	10570	9313	12.34	12.26	4958	105	232	.95	-.91	20.76
15	520	5000	11007	9806	12.01	11.93	4955	109	210	.85	-.82	20.20
15	560	5000	11408	10254	11.72	11.64	4951	114	192	.77	-.75	19.72
25	360	1300	2526	2165	3.97	3.84	1249	39	107	1.38	-1.32	6.59
25	400	1300	2592	2243	3.70	3.56	1243	39	91	1.22	-1.17	6.13
25	440	1300	2649	2308	3.46	3.31	1237	38	79	1.09	-1.05	5.72
25	480	1300	2696	2362	3.25	3.09	1232	37	69	.98	-.95	5.35
25	520	1300	2736	2408	3.05	2.90	1226	36	61	.89	-.86	5.02
25	560	1300	2771	2447	2.88	2.72	1220	35	54	.82	-.79	4.73
25	360	1400	2695	2303	4.22	4.09	1349	40	112	1.39	-1.33	7.02
25	400	1400	2769	2388	3.94	3.80	1343	40	96	1.23	-1.18	6.54
25	440	1400	2831	2460	3.69	3.55	1337	40	83	1.10	-1.06	6.11
25	480	1400	2884	2521	3.47	3.32	1332	39	73	.99	-.95	5.73
25	520	1400	2928	2572	3.27	3.11	1326	38	64	.90	-.87	5.38
25	560	1400	2967	2616	3.09	2.92	1320	37	57	.82	-.80	5.07
25	360	1500	2862	2437	4.47	4.35	1449	42	118	1.40	-1.34	7.44
25	400	1500	2942	2531	4.18	4.05	1443	42	101	1.24	-1.19	6.94
25	440	1500	3011	2610	3.92	3.78	1437	41	87	1.10	-1.06	6.50
25	480	1500	3069	2677	3.69	3.54	1432	41	76	.99	-.96	6.10
25	520	1500	3119	2734	3.47	3.32	1426	40	67	.90	-.88	5.73
25	560	1500	3161	2783	3.29	3.13	1420	39	60	.83	-.81	5.41
25	360	2000	3666	3072	5.66	5.54	1949	48	142	1.45	-1.38	9.46
25	400	2000	3781	3209	5.32	5.20	1943	48	123	1.27	-1.22	8.88
25	440	2000	3881	3326	5.01	4.88	1937	48	107	1.14	-1.09	8.35
25	480	2000	3967	3426	4.74	4.60	1932	48	94	1.02	-.99	7.87
25	520	2000	4042	3512	4.48	4.34	1926	47	83	.93	-.90	7.44
25	560	2000	4107	3587	4.25	4.10	1920	47	74	.85	-.83	7.05

Table 6-11. (Sheet 21)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS FT/KNOTS
25	360	2500	4429	3656	6.76	6.65	2449	52	165	1.48	-1.42	11.32
25	400	2500	4579	3836	6.38	6.27	2443	53	143	1.30	-1.25	10.67
25	440	2500	4710	3991	6.04	5.91	2437	54	125	1.16	-1.12	10.09
25	480	2500	4825	4126	5.72	5.59	2432	54	110	1.05	-1.01	9.55
25	520	2500	4925	4244	5.43	5.30	2426	54	97	.95	-.92	9.06
25	560	2500	5013	4345	5.17	5.03	2420	53	87	.87	-.85	8.61
25	360	3000	5161	4199	7.79	7.68	2949	56	185	1.51	-1.45	13.06
25	400	3000	5343	4421	7.38	7.27	2943	58	161	1.33	-1.28	12.36
25	440	3000	5505	4616	7.01	6.89	2937	59	141	1.19	-1.14	11.72
25	480	3000	5648	4786	6.66	6.53	2932	59	125	1.07	-1.03	11.13
25	520	3000	5776	4935	6.34	6.21	2926	59	111	.97	-.94	10.59
25	560	3000	5887	5066	6.06	5.92	2920	59	99	.89	-.86	10.10
25	360	4000	6552	5189	9.67	9.58	3949	62	221	1.55	-1.49	16.25
25	400	4000	6796	5494	9.22	9.12	3943	64	194	1.37	-1.32	15.48
25	440	4000	7017	5765	8.80	8.69	3937	66	171	1.22	-1.18	14.76
25	480	4000	7216	6006	8.41	8.29	3932	67	152	1.10	-1.07	14.09
25	520	4000	7396	6221	8.04	7.92	3926	68	136	1.00	-.97	13.47
25	560	4000	7554	6408	7.72	7.59	3920	69	122	.92	-.89	12.92
25	360	5000	7873	6082	11.39	11.30	4949	66	253	1.58	-1.52	19.15
25	400	5000	8173	6466	10.90	10.81	4943	69	223	1.40	-1.35	18.32
25	440	5000	8449	6811	10.45	10.35	4937	72	198	1.25	-1.21	17.55
25	480	5000	8701	7121	10.02	9.91	4932	74	177	1.13	-1.10	16.82
25	520	5000	8931	7400	9.62	9.50	4926	75	159	1.03	-1.00	16.14
25	560	5000	9134	7644	9.27	9.15	4920	76	144	.95	-.92	15.54
25	400	6000	9495	7359	12.46	12.37	5943	73	248	1.42	-1.37	20.96
25	440	6000	9821	7775	11.98	11.88	5937	76	222	1.28	-1.23	20.14
25	480	6000	10123	8153	11.52	11.42	5932	79	199	1.15	-1.12	19.36
25	520	6000	10400	8494	11.10	10.99	5926	81	179	1.05	-1.02	18.64
25	560	6000	10645	8793	10.74	10.62	5920	83	163	.97	-.94	18.02
30	360	1700	2872	2315	4.46	4.32	1639	36	112	1.57	-1.51	7.41
30	400	1700	2937	2395	4.15	4.01	1632	35	96	1.39	-1.34	6.89
30	440	1700	2992	2462	3.88	3.73	1626	35	83	1.25	-1.21	6.42
30	480	1700	3038	2517	3.63	3.48	1619	34	72	1.13	-1.09	6.00
30	520	1700	3076	2564	3.42	3.26	1612	33	64	1.03	-1.00	5.63
30	560	1700	3109	2604	3.22	3.06	1605	32	57	.95	-.92	5.30
30	360	1800	3023	2428	4.68	4.55	1739	37	116	1.58	-1.51	7.79
30	400	1800	3093	2515	4.36	4.22	1732	37	100	1.40	-1.35	7.24
30	440	1800	3152	2587	4.08	3.93	1726	36	86	1.25	-1.21	6.76
30	480	1800	3202	2648	3.83	3.67	1719	35	75	1.14	-1.10	6.33
30	520	1800	3244	2699	3.60	3.44	1712	34	66	1.04	-1.01	5.94
30	560	1800	3280	2742	3.40	3.23	1705	33	59	.96	-.93	5.60
30	360	1900	3172	2540	4.90	4.77	1839	38	121	1.58	-1.52	8.16
30	400	1900	3247	2633	4.57	4.43	1832	38	103	1.40	-1.35	7.60
30	440	1900	3311	2711	4.28	4.13	1826	37	89	1.26	-1.22	7.10
30	480	1900	3365	2777	4.01	3.86	1819	36	78	1.14	-1.10	6.65
30	520	1900	3410	2832	3.78	3.62	1812	36	69	1.04	-1.01	6.25
30	560	1900	3450	2879	3.57	3.41	1805	35	61	.96	-.93	5.89
30	360	2000	3320	2650	5.12	4.99	1939	39	125	1.59	-1.52	8.52
30	400	2000	3400	2750	4.78	4.64	1932	39	107	1.41	-1.36	7.95
30	440	2000	3468	2834	4.47	4.33	1926	38	93	1.26	-1.22	7.43
30	480	2000	3526	2904	4.20	4.05	1919	38	81	1.14	-1.11	6.96
30	520	2000	3576	2964	3.96	3.80	1912	37	72	1.05	-1.01	6.55
30	560	2000	3618	3015	3.74	3.58	1905	36	64	.96	-.94	6.18

Table 6-11. (Sheet 22)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS FT/KNOTS
30	360	2500	4042	3176	6.15	6.03	2439	43	145	1.61	-1.55	10.28
30	400	2500	4148	3310	5.77	5.64	2432	44	125	1.43	-1.38	9.63
30	440	2500	4240	3424	5.42	5.29	2426	43	108	1.28	-1.24	9.04
30	480	2500	4319	3521	5.11	4.97	2419	43	95	1.16	-1.13	8.51
30	520	2500	4387	3604	4.83	4.68	2412	42	84	1.06	-1.03	8.02
30	560	2500	4445	3675	4.58	4.42	2405	42	75	.98	-.95	7.60
30	360	3000	4739	3669	7.13	7.01	2939	47	163	1.63	-1.57	11.93
30	400	3000	4871	3838	6.71	6.58	2932	48	141	1.45	-1.40	11.21
30	440	3000	4986	3983	6.33	6.19	2926	48	123	1.30	-1.26	10.57
30	480	3000	5086	4108	5.98	5.84	2919	48	108	1.18	-1.14	9.98
30	520	3000	5174	4215	5.67	5.52	2912	47	96	1.08	-1.05	9.44
30	560	3000	5250	4308	5.38	5.23	2905	47	86	.99	-.97	8.96
30	360	3500	5417	4134	8.05	7.94	3439	50	180	1.65	-1.58	13.49
30	400	3500	5574	4338	7.60	7.48	3432	51	156	1.46	-1.41	12.73
30	440	3500	5712	4514	7.19	7.06	3426	52	137	1.32	-1.27	12.03
30	480	3500	5834	4667	6.81	6.68	3419	52	121	1.19	-1.16	11.39
30	520	3500	5941	4800	6.47	6.33	3412	51	107	1.09	-1.06	10.80
30	560	3500	6034	4915	6.17	6.02	3405	51	96	1.01	-.98	10.28
30	360	4000	6077	4575	8.93	8.83	3939	53	196	1.66	-1.60	14.98
30	400	4000	6259	4814	8.46	8.34	3932	54	171	1.48	-1.43	14.17
30	440	4000	6420	5021	8.02	7.90	3926	55	150	1.33	-1.29	13.43
30	480	4000	6563	5203	7.62	7.49	3919	55	133	1.21	-1.17	12.75
30	520	4000	6690	5362	7.25	7.11	3912	55	118	1.10	-1.07	12.12
30	560	4000	6800	5500	6.92	6.78	3905	55	106	1.02	-.99	11.56
30	360	4500	6724	4996	9.77	9.67	4439	55	211	1.67	-1.61	16.41
30	400	4500	6929	5269	9.28	9.17	4432	57	184	1.49	-1.44	15.56
30	440	4500	7112	5508	8.82	8.70	4426	58	162	1.34	-1.30	14.78
30	480	4500	7276	5718	8.39	8.27	4419	58	144	1.22	-1.18	14.06
30	520	4500	7423	5903	8.00	7.87	4412	59	129	1.11	-1.08	13.39
30	560	4500	7551	6063	7.66	7.52	4405	59	116	1.03	-1.00	12.81
30	360	5000	7359	5399	10.58	10.49	4939	57	224	1.68	-1.62	17.78
30	400	5000	7586	5705	10.07	9.96	4932	59	197	1.50	-1.45	16.90
30	440	5000	7791	5975	9.59	9.47	4926	60	174	1.35	-1.31	16.08
30	480	5000	7976	6214	9.14	9.02	4919	61	155	1.23	-1.19	15.33
30	520	5000	8142	6426	8.73	8.60	4912	62	138	1.12	-1.09	14.63
30	560	5000	8287	6609	8.37	8.24	4905	62	125	1.04	-1.01	14.02
30	360	6000	8598	6158	12.12	12.03	5939	61	250	1.69	-1.63	20.38
30	400	6000	8868	6530	11.57	11.47	5932	63	220	1.51	-1.46	19.44
30	440	6000	9115	6861	11.05	10.95	5926	65	196	1.36	-1.32	18.57
30	480	6000	9340	7157	10.57	10.46	5919	66	175	1.24	-1.21	17.75
30	520	6000	9543	7421	10.13	10.01	5912	67	157	1.14	-1.11	17.00
30	560	6000	9721	7648	9.76	9.63	5905	68	142	1.05	-1.03	16.36
30	400	7000	10115	7301	12.98	12.89	6932	66	241	1.52	-1.47	21.83
30	440	7000	10400	7692	12.44	12.34	6926	69	215	1.38	-1.34	20.91
30	480	7000	10663	8044	11.93	11.83	6919	71	193	1.25	-1.22	20.05
30	520	7000	10902	8358	11.47	11.36	6912	72	174	1.15	-1.12	19.26
30	560	7000	11111	8629	11.08	10.96	6905	74	159	1.07	-1.04	18.60
30	440	8000	11655	8476	13.76	13.66	7926	72	233	1.38	-1.34	23.14
30	480	8000	11954	8882	13.23	13.13	7919	74	210	1.26	-1.23	22.24
30	520	8000	12226	9246	12.75	12.64	7912	76	190	1.16	-1.13	21.43
30	560	8000	12464	9558	12.36	12.24	7905	78	174	1.08	-1.06	20.76

Table 6-11. (Sheet 23)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS FT/KNOTS
45	360	2300	2990	1911	4.55	4.40	2214	24	94	1.99	-1.92	7.56
45	400	2300	3025	1964	4.21	4.05	2205	23	80	1.79	-1.73	6.97
45	440	2300	3053	2008	3.90	3.74	2195	22	70	1.62	-1.58	6.45
45	480	2300	3077	2043	3.64	3.47	2185	22	61	1.48	-1.45	6.00
45	520	2300	3096	2073	3.41	3.23	2176	21	54	1.37	-1.33	5.60
45	560	2300	3113	2098	3.20	3.02	2166	20	48	1.27	-1.24	5.25
45	360	2400	3113	1983	4.73	4.58	2314	24	97	1.99	-1.92	7.85
45	400	2400	3150	2040	4.37	4.21	2305	24	83	1.79	-1.73	7.25
45	440	2400	3180	2086	4.06	3.90	2295	23	72	1.62	-1.58	6.71
45	480	2400	3205	2124	3.79	3.62	2285	22	63	1.49	-1.45	6.25
45	520	2400	3226	2156	3.54	3.37	2276	21	55	1.37	-1.34	5.84
45	560	2400	3244	2182	3.33	3.16	2266	21	49	1.27	-1.24	5.48
45	360	2500	3236	2054	4.90	4.75	2414	25	99	1.99	-1.92	8.14
45	400	2500	3274	2115	4.53	4.38	2405	24	85	1.79	-1.74	7.52
45	440	2500	3307	2164	4.21	4.05	2395	24	74	1.62	-1.58	6.97
45	480	2500	3333	2205	3.93	3.76	2385	23	64	1.49	-1.45	6.49
45	520	2500	3356	2238	3.68	3.51	2376	22	57	1.37	-1.34	6.07
45	560	2500	3374	2267	3.46	3.29	2366	21	51	1.27	-1.24	5.70
45	360	3000	3843	2401	5.74	5.60	2914	28	112	1.98	-1.92	9.57
45	400	3000	3892	2480	5.33	5.18	2905	27	96	1.79	-1.74	8.87
45	440	3000	3934	2545	4.97	4.81	2895	27	83	1.63	-1.58	8.25
45	480	3000	3969	2598	4.64	4.48	2885	26	73	1.49	-1.45	7.70
45	520	3000	3998	2643	4.36	4.19	2876	25	65	1.38	-1.34	7.22
45	560	3000	4023	2681	4.11	3.94	2866	24	57	1.28	-1.25	6.79
45	360	3500	4441	2733	6.55	6.41	3414	30	124	1.98	-1.92	10.94
45	400	3500	4501	2831	6.10	5.95	3405	30	107	1.79	-1.74	10.17
45	440	3500	4553	2912	5.70	5.54	3395	29	93	1.63	-1.59	9.49
45	480	3500	4597	2980	5.34	5.18	3385	29	81	1.49	-1.46	8.88
45	520	3500	4634	3037	5.02	4.86	3376	28	72	1.38	-1.35	8.34
45	560	3500	4665	3085	4.74	4.57	3366	27	64	1.28	-1.25	7.86
45	360	4000	5031	3052	7.33	7.20	3914	32	135	1.97	-1.91	12.26
45	400	4000	5103	3169	6.84	6.70	3905	32	117	1.78	-1.74	11.43
45	440	4000	5165	3267	6.40	6.26	3895	32	102	1.63	-1.59	10.69
45	480	4000	5217	3350	6.01	5.86	3885	31	89	1.50	-1.46	10.02
45	520	4000	5262	3420	5.67	5.51	3876	30	79	1.38	-1.35	9.43
45	560	4000	5301	3478	5.36	5.20	3866	30	71	1.29	-1.26	8.91
45	360	4500	5615	3359	8.08	7.95	4414	34	145	1.96	-1.91	13.53
45	400	4500	5698	3496	7.56	7.42	4405	34	126	1.78	-1.73	12.65
45	440	4500	5770	3611	7.09	6.95	4395	34	110	1.63	-1.59	11.85
45	480	4500	5832	3709	6.67	6.52	4385	33	97	1.50	-1.46	11.14
45	520	4500	5885	3792	6.30	6.14	4376	33	86	1.38	-1.35	10.50
45	560	4500	5930	3862	5.97	5.81	4366	32	77	1.29	-1.26	9.94
45	360	5000	6193	3655	8.81	8.69	4914	36	155	1.96	-1.90	14.77
45	400	5000	6287	3812	8.26	8.13	4905	36	135	1.78	-1.73	13.83
45	440	5000	6369	3945	7.77	7.63	4895	36	118	1.63	-1.58	12.99
45	480	5000	6440	4059	7.32	7.17	4885	35	104	1.50	-1.46	12.23
45	520	5000	6502	4156	6.92	6.76	4876	35	93	1.38	-1.35	11.55
45	560	5000	6554	4238	6.57	6.41	4866	35	83	1.29	-1.26	10.96
45	360	6000	7335	4219	10.21	10.09	5914	39	173	1.94	-1.89	17.13
45	400	6000	7450	4417	9.61	9.48	5905	39	152	1.77	-1.72	16.11
45	440	6000	7552	4586	9.06	8.93	5895	39	134	1.62	-1.58	15.18
45	480	6000	7642	4732	8.57	8.43	5885	39	118	1.49	-1.46	14.34
45	520	6000	7720	4858	8.12	7.97	5876	39	106	1.39	-1.36	13.58
45	560	6000	7787	4963	7.74	7.59	5866	39	95	1.30	-1.27	12.94

Table 6-11. (Sheet 24)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNOTS
45	360	7000	8460	4751	11.53	11.42	6914	41	190	1.92	-1.87	19.37
45	400	7000	8596	4989	10.89	10.77	6905	42	167	1.76	-1.71	18.28
45	440	7000	8717	5195	10.30	10.17	6895	43	148	1.61	-1.58	17.28
45	480	7000	8825	5374	9.77	9.63	6885	43	131	1.49	-1.46	16.37
45	520	7000	8920	5529	9.29	9.14	6876	43	118	1.39	-1.36	15.55
45	560	7000	9001	5658	8.88	8.73	6866	43	106	1.30	-1.27	14.87
45	360	8000	9572	5256	12.80	12.69	7914	44	205	1.90	-1.86	21.51
45	400	8000	9727	5534	12.12	12.00	7905	45	181	1.74	-1.70	20.35
45	440	8000	9867	5776	11.49	11.37	7895	45	161	1.61	-1.57	19.29
45	480	8000	9993	5988	10.92	10.79	7885	46	143	1.49	-1.45	18.32
45	520	8000	10104	6172	10.42	10.28	7876	46	129	1.39	-1.36	17.47
45	560	8000	10199	6326	10.00	9.85	7866	46	117	1.30	-1.28	16.75
45	360	9000	10673	5736	14.01	13.91	8914	46	219	1.89	-1.84	23.56
45	400	9000	10847	6054	13.29	13.18	8905	47	194	1.73	-1.69	22.35
45	440	9000	11005	6333	12.64	12.52	8895	48	173	1.60	-1.56	21.23
45	480	9000	11148	6578	12.04	11.92	8885	48	155	1.48	-1.45	20.22
45	520	9000	11274	6790	11.52	11.38	8876	49	140	1.38	-1.36	19.33
45	560	9000	11382	6968	11.08	10.94	8866	49	127	1.31	-1.28	18.59
45	360	10000	11764	6196	15.17	15.07	9914	47	231	1.87	-1.82	25.52
45	400	10000	11956	6553	14.43	14.32	9905	49	206	1.72	-1.68	24.26
45	440	10000	12131	6868	13.75	13.63	9895	50	184	1.59	-1.55	23.11
45	480	10000	12290	7145	13.13	13.01	9885	51	166	1.48	-1.45	22.06
45	520	10000	12432	7385	12.60	12.46	9876	52	150	1.38	-1.36	21.15
45	560	10000	12552	7586	12.15	12.01	9866	52	137	1.31	-1.28	20.39
60	360	3000	3332	1451	4.96	4.81	2895	16	75	2.26	-2.21	8.25
60	400	3000	3350	1490	4.57	4.41	2883	15	64	2.06	-2.02	7.58
60	440	3000	3364	1521	4.24	4.07	2871	15	56	1.88	-1.85	7.01
60	480	3000	3375	1547	3.94	3.77	2860	14	49	1.74	-1.71	6.51
60	520	3000	3385	1568	3.68	3.51	2848	14	44	1.61	-1.58	6.07
60	560	3000	3393	1585	3.46	3.28	2836	13	39	1.50	-1.48	5.69
60	360	4000	4412	1863	6.40	6.25	3895	19	89	2.22	-2.18	10.68
60	400	4000	4438	1922	5.93	5.77	3883	18	77	2.03	-1.99	9.87
60	440	4000	4459	1971	5.51	5.35	3871	18	67	1.87	-1.83	9.17
60	480	4000	4477	2011	5.15	4.98	3860	17	59	1.72	-1.70	8.55
60	520	4000	4492	2044	4.82	4.65	3848	17	52	1.60	-1.58	8.00
60	560	4000	4505	2072	4.54	4.37	3836	16	47	1.50	-1.48	7.52
60	360	5000	5483	2250	7.76	7.62	4895	21	102	2.18	-2.14	12.97
60	400	5000	5517	2331	7.21	7.07	4883	21	88	2.00	-1.97	12.05
60	440	5000	5545	2398	6.73	6.58	4871	21	77	1.85	-1.81	11.23
60	480	5000	5570	2454	6.30	6.14	4860	20	68	1.71	-1.68	10.51
60	520	5000	5591	2502	5.93	5.76	4848	20	61	1.59	-1.57	9.86
60	560	5000	5609	2541	5.60	5.43	4836	19	54	1.49	-1.47	9.31
60	360	6000	6545	2615	9.05	8.92	5895	23	113	2.15	-2.11	15.16
60	400	6000	6588	2719	8.45	8.30	5883	23	99	1.98	-1.94	14.13
60	440	6000	6624	2807	7.91	7.76	5871	23	87	1.83	-1.80	13.22
60	480	6000	6655	2880	7.42	7.27	5860	22	77	1.70	-1.67	12.40
60	520	6000	6682	2942	7.00	6.84	5848	22	69	1.58	-1.56	11.68
60	560	6000	6705	2993	6.64	6.47	5836	22	62	1.49	-1.47	11.06
60	360	7000	7601	2963	10.28	10.16	6895	25	124	2.11	-2.07	17.25
60	400	7000	7652	3090	9.63	9.49	6883	25	109	1.95	-1.92	16.13
60	440	7000	7696	3198	9.04	8.89	6871	25	96	1.81	-1.78	15.13
60	480	7000	7734	3289	8.51	8.36	6860	25	85	1.68	-1.66	14.24
60	520	7000	7768	3367	8.04	7.89	6848	24	76	1.57	-1.55	13.44
60	560	7000	7796	3431	7.65	7.49	6836	24	69	1.48	-1.46	12.78

Table 6-11. (Sheet 25)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
60	360	8000	8652	3295	11.47	11.35	7895	27	134	2.08	-2.04	19.25
60	400	8000	8710	3446	10.77	10.64	7883	27	118	1.92	-1.89	18.06
60	440	8000	8762	3574	10.13	9.99	7871	27	104	1.79	-1.76	16.98
60	480	8000	8807	3684	9.56	9.42	7860	27	93	1.67	-1.64	16.02
60	520	8000	8847	3777	9.07	8.91	7848	26	83	1.56	-1.54	15.17
60	560	8000	8880	3855	8.65	8.49	7836	26	75	1.48	-1.46	14.46
60	360	9000	9698	3613	12.61	12.49	8895	28	143	2.05	-2.01	21.18
60	400	9000	9764	3787	11.87	11.74	8883	28	126	1.90	-1.87	19.92
60	440	9000	9823	3937	11.19	11.06	8871	28	112	1.77	-1.74	18.78
60	480	9000	9876	4065	10.59	10.45	8860	28	100	1.65	-1.63	17.76
60	520	9000	9921	4175	10.07	9.92	8848	28	90	1.56	-1.53	16.87
60	560	9000	9960	4265	9.63	9.47	8836	28	82	1.47	-1.45	16.12
60	360	10000	10740	3918	13.71	13.60	9895	29	151	2.02	-1.98	23.04
60	400	10000	10814	4116	12.93	12.81	9883	30	134	1.87	-1.85	21.72
60	440	10000	10880	4287	12.23	12.10	9871	30	119	1.75	-1.72	20.53
60	480	10000	10939	4434	11.60	11.46	9860	30	107	1.64	-1.62	19.46
60	520	10000	10990	4560	11.05	10.91	9848	30	96	1.55	-1.52	18.53
60	560	10000	11034	4663	10.60	10.44	9836	30	88	1.47	-1.45	17.76
60	360	11000	11779	4212	14.78	14.67	10895	30	158	1.99	-1.96	24.85
60	400	11000	11860	4434	13.97	13.85	10883	31	141	1.85	-1.82	23.47
60	440	11000	11933	4626	13.24	13.11	10871	31	126	1.73	-1.71	22.23
60	480	11000	11998	4792	12.59	12.45	10860	32	113	1.63	-1.60	21.13
60	520	11000	12056	4933	12.02	11.88	10848	32	103	1.54	-1.52	20.17
60	560	11000	12104	5050	11.56	11.40	10836	32	94	1.47	-1.45	19.38
60	360	12000	12815	4497	15.81	15.70	11895	31	166	1.96	-1.93	26.60
60	400	12000	12903	4742	14.98	14.86	11883	32	148	1.83	-1.80	25.18
60	440	12000	12983	4954	14.22	14.10	11871	33	133	1.71	-1.69	23.90
60	480	12000	13054	5139	13.56	13.42	11860	33	119	1.62	-1.59	22.77
60	520	12000	13117	5296	12.98	12.84	11848	33	108	1.53	-1.51	21.79
60	560	12000	13170	5426	12.50	12.35	11836	34	99	1.46	-1.44	20.97

Table 6-11. (Sheet 26)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS DRIFT FT/KNOTS	WIND CORRECTION FACTOR CROSS CRAB FT/KNOTS
0	360	350	2760	2738	4.35	4.35	350	243	129	.35	-.34	7.35	.08
0	400	350	3060	3040	4.35	4.35	350	270	117	.29	-.27	7.35	.09
0	440	350	3360	3342	4.36	4.36	350	297	106	.24	-.23	7.35	.10
0	480	350	3660	3643	4.36	4.36	350	324	97	.20	-.19	7.36	.10
0	520	350	3960	3944	4.36	4.36	350	351	90	.17	-.16	7.36	.11
0	560	350	4258	4244	4.36	4.36	350	378	84	.15	-.14	7.36	.12
0	360	400	2958	2931	4.68	4.68	400	243	138	.38	-.36	7.89	.09
0	400	400	3278	3254	4.68	4.68	400	270	124	.31	-.29	7.90	.10
0	440	400	3599	3577	4.68	4.68	400	297	113	.25	-.24	7.90	.11
0	480	400	3919	3899	4.68	4.68	400	324	104	.21	-.21	7.90	.12
0	520	400	4239	4220	4.69	4.69	400	351	96	.18	-.18	7.91	.13
0	560	400	4558	4541	4.69	4.69	400	378	89	.16	-.15	7.91	.14
0	360	450	3144	3111	4.98	4.98	450	243	146	.40	-.38	8.41	.10
0	400	450	3483	3454	4.98	4.98	450	270	131	.33	-.31	8.41	.11
0	440	450	3823	3797	4.99	4.99	450	297	120	.27	-.26	8.42	.12
0	480	450	4163	4138	4.99	4.99	450	324	110	.23	-.22	8.42	.14
0	520	450	4502	4480	4.99	4.99	450	351	101	.19	-.19	8.42	.15
0	560	450	4840	4819	4.99	4.99	450	378	94	.17	-.16	8.43	.16
0	360	500	3320	3282	5.27	5.27	500	243	153	.42	-.40	8.89	.11
0	400	500	3678	3644	5.27	5.27	500	270	138	.34	-.33	8.90	.13
0	440	500	4036	4004	5.27	5.27	500	297	126	.28	-.27	8.90	.14
0	480	500	4393	4365	5.28	5.28	500	324	115	.24	-.23	8.91	.15
0	520	500	4751	4725	5.28	5.28	500	351	107	.20	-.20	8.91	.16
0	560	500	5107	5083	5.28	5.28	500	378	99	.18	-.17	8.92	.18
0	360	600	3649	3599	5.81	5.81	600	243	167	.46	-.44	9.80	.14
0	400	600	4040	3995	5.81	5.81	600	270	151	.37	-.36	9.80	.15
0	440	600	4432	4391	5.81	5.81	600	297	137	.31	-.30	9.81	.17
0	480	600	4823	4785	5.82	5.82	600	324	126	.26	-.25	9.82	.18
0	520	600	5214	5179	5.82	5.82	600	351	117	.22	-.22	9.82	.20
0	560	600	5604	5571	5.82	5.82	600	378	108	.19	-.19	9.83	.22
0	360	700	3953	3891	6.30	6.30	700	243	180	.50	-.47	10.63	.16
0	400	700	4375	4318	6.30	6.30	700	270	162	.40	-.38	10.64	.18
0	440	700	4797	4745	6.31	6.31	700	297	148	.33	-.32	10.64	.20
0	480	700	5219	5171	6.31	6.31	700	324	136	.28	-.27	10.65	.22
0	520	700	5640	5597	6.31	6.31	700	351	126	.24	-.23	10.66	.23
0	560	700	6060	6020	6.32	6.32	700	378	117	.21	-.20	10.66	.25
0	360	800	4238	4161	6.76	6.76	800	243	192	.53	-.50	11.41	.19
0	400	800	4687	4619	6.76	6.76	800	270	173	.43	-.41	11.42	.21
0	440	800	5138	5075	6.77	6.77	800	297	158	.36	-.34	11.42	.23
0	480	800	5588	5530	6.77	6.77	800	324	145	.30	-.29	11.43	.25
0	520	800	6038	5984	6.78	6.78	800	351	134	.26	-.25	11.44	.27
0	560	800	6486	6436	6.78	6.78	800	378	125	.22	-.22	11.45	.29
0	360	900	4506	4415	7.19	7.19	900	243	203	.56	-.53	12.14	.21
0	400	900	4982	4900	7.20	7.20	900	270	183	.46	-.43	12.15	.23
0	440	900	5459	5384	7.20	7.20	900	297	167	.38	-.36	12.15	.26
0	480	900	5935	5867	7.21	7.21	900	324	153	.32	-.31	12.16	.28
0	520	900	6411	6348	7.21	7.21	900	351	142	.27	-.26	12.17	.30
0	560	900	6886	6827	7.22	7.22	900	378	132	.24	-.23	12.18	.33
0	360	1000	4762	4655	7.60	7.60	1000	243	213	.59	-.56	12.83	.24
0	400	1000	5262	5166	7.61	7.61	1000	270	192	.48	-.46	12.84	.26
0	440	1000	5763	5676	7.61	7.61	1000	297	176	.40	-.38	12.85	.29
0	480	1000	6265	6184	7.62	7.62	1000	324	161	.34	-.32	12.86	.31
0	520	1000	6766	6691	7.62	7.62	1000	351	149	.29	-.28	12.87	.34
0	560	1000	7264	7195	7.63	7.63	1000	378	139	.25	-.24	12.88	.36

Table 6-11. (Sheet 27)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS DRIFT FT/KNOTS	CROSS CRAB FT/KNOTS
0	440	1500	7110	6950	9.41	9.41	1500	297	214	.48	-.46	15.89	.43
0	480	1500	7717	7570	9.42	9.42	1500	324	196	.41	-.39	15.90	.47
0	520	1500	8325	8189	9.43	9.43	1500	351	182	.35	-.34	15.91	.50
0	560	1500	8929	8802	9.44	9.44	1500	378	170	.31	-.30	15.93	.55
0	520	2000	9653	9443	10.96	10.96	2000	351	209	.41	-.39	18.49	.67
0	560	2000	10343	10148	10.97	10.97	2000	378	195	.35	-.34	18.51	.73

Table 6-11. (Sheet 28)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS FT/KNOTS
10	360	800	2749	2630	4.34	4.17	758	140	123	.79	-.75	7.18
10	400	800	2905	2792	4.15	3.96	753	146	107	.67	-.64	6.85
10	440	800	3044	2937	3.97	3.77	748	151	93	.58	-.56	6.53
10	480	800	3170	3067	3.80	3.59	744	154	82	.51	-.49	6.24
10	520	800	3283	3184	3.65	3.42	739	157	73	.46	-.44	5.97
10	560	800	3384	3289	3.50	3.27	734	159	66	.41	-.40	5.71
10	360	900	2997	2859	4.73	4.56	858	145	133	.81	-.77	7.84
10	400	900	3172	3041	4.53	4.35	853	152	115	.69	-.66	7.50
10	440	900	3330	3206	4.34	4.15	848	157	101	.60	-.58	7.17
10	480	900	3472	3354	4.17	3.97	844	161	89	.53	-.51	6.86
10	520	900	3602	3487	4.00	3.79	839	165	80	.47	-.45	6.58
10	560	900	3718	3608	3.85	3.62	834	167	71	.42	-.41	6.31
10	360	1000	3235	3077	5.10	4.94	958	149	142	.84	-.80	8.47
10	400	1000	3428	3279	4.89	4.72	953	157	123	.71	-.68	8.12
10	440	1000	3604	3462	4.70	4.52	948	163	108	.62	-.59	7.78
10	480	1000	3764	3628	4.52	4.32	944	168	96	.54	-.52	7.46
10	520	1000	3909	3779	4.35	4.14	939	172	86	.48	-.46	7.16
10	560	1000	4040	3915	4.19	3.97	934	174	77	.43	-.42	6.88
10	360	1500	4316	4047	6.76	6.63	1458	164	182	.94	-.89	11.30
10	400	1500	4593	4342	6.53	6.39	1453	174	160	.80	-.76	10.90
10	440	1500	4851	4613	6.32	6.16	1448	183	141	.69	-.66	10.53
10	480	1500	5089	4863	6.11	5.94	1444	191	126	.60	-.58	10.17
10	520	1500	5310	5094	5.91	5.73	1439	197	113	.54	-.52	9.83
10	560	1500	5513	5305	5.73	5.54	1434	203	102	.48	-.46	9.51
10	360	2000	5272	4878	8.19	8.08	1958	174	216	1.02	-.97	13.73
10	400	2000	5622	5254	7.95	7.83	1953	186	190	.87	-.83	13.32
10	440	2000	5951	5605	7.72	7.59	1948	196	169	.75	-.72	12.92
10	480	2000	6260	5932	7.50	7.35	1944	206	152	.66	-.63	12.53
10	520	2000	6549	6236	7.29	7.13	1939	214	137	.58	-.56	12.17
10	560	2000	6818	6518	7.09	6.92	1934	222	124	.52	-.50	11.82
10	400	2500	6561	6066	9.23	9.11	2453	194	217	.92	-.88	15.48
10	440	2500	6954	6489	8.99	8.86	2448	206	194	.80	-.77	15.06
10	480	2500	7326	6886	8.75	8.62	2444	217	175	.70	-.67	14.66
10	520	2500	7677	7259	8.53	8.38	2439	227	158	.62	-.60	14.28
10	560	2500	8006	7606	8.32	8.16	2434	236	144	.55	-.54	13.91
10	440	3000	7886	7293	10.15	10.03	2948	213	217	.84	-.81	17.03
10	480	3000	8316	7756	9.91	9.78	2944	225	195	.74	-.71	16.61
10	520	3000	8724	8192	9.67	9.54	2939	237	177	.65	-.63	16.21
10	560	3000	9107	8599	9.46	9.31	2934	247	162	.58	-.57	15.84
15	360	1000	2714	2523	4.27	4.06	937	114	118	.99	-.94	7.03
15	400	1000	2832	2650	4.04	3.81	930	116	101	.85	-.82	6.62
15	440	1000	2935	2759	3.82	3.58	923	117	88	.75	-.72	6.25
15	480	1000	3024	2854	3.63	3.37	916	117	77	.66	-.64	5.91
15	520	1000	3103	2937	3.45	3.18	909	117	68	.60	-.58	5.60
15	560	1000	3172	3010	3.29	3.00	902	116	61	.54	-.52	5.31
15	360	1500	3727	3412	5.81	5.63	1437	131	154	1.08	-1.03	9.66
15	400	1500	3910	3611	5.54	5.34	1430	136	134	.93	-.89	9.18
15	440	1500	4073	3787	5.29	5.07	1423	139	117	.81	-.78	8.74
15	480	1500	4220	3944	5.05	4.82	1416	142	103	.72	-.69	8.33
15	520	1500	4350	4084	4.83	4.59	1409	143	92	.64	-.62	7.95
15	560	1500	4467	4207	4.63	4.37	1402	144	82	.58	-.57	7.60

Table 6-11. (Sheet 29)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS FT/KNOTS
15	360	2000	4640	4186	7.17	7.01	1937	143	185	1.14	-1.09	11.97
15	400	2000	4882	4454	6.87	6.69	1930	149	162	.99	-.95	11.45
15	440	2000	5103	4695	6.59	6.40	1923	155	142	.86	-.83	10.96
15	480	2000	5303	4912	6.32	6.12	1916	159	126	.76	-.74	10.50
15	520	2000	5485	5108	6.08	5.86	1909	162	113	.68	-.66	10.07
15	560	2000	5649	5283	5.85	5.62	1902	164	101	.62	-.60	9.67
15	360	2500	5484	4881	8.40	8.25	2437	151	213	1.20	-1.15	14.05
15	400	2500	5781	5213	8.08	7.92	2430	160	187	1.04	-.99	13.50
15	440	2500	6055	5515	7.78	7.60	2423	166	165	.91	-.87	12.98
15	480	2500	6307	5790	7.49	7.30	2416	172	147	.80	-.77	12.49
15	520	2500	6537	6040	7.22	7.02	2409	177	132	.72	-.69	12.02
15	560	2500	6747	6267	6.97	6.76	2402	180	119	.65	-.63	11.59
15	360	3000	6280	5517	9.53	9.39	2937	158	237	1.25	-1.19	15.97
15	400	3000	6627	5909	9.20	9.04	2930	167	209	1.08	-1.03	15.39
15	440	3000	6949	6269	8.88	8.71	2923	175	186	.94	-.91	14.85
15	480	3000	7249	6599	8.58	8.40	2916	182	166	.84	-.81	14.33
15	520	3000	7526	6902	8.29	8.10	2909	188	149	.75	-.72	13.83
15	560	3000	7779	7178	8.03	7.82	2902	193	135	.68	-.65	13.38
15	440	4000	8612	7626	10.88	10.73	3923	189	222	1.00	-.97	18.24
15	480	4000	8998	8060	10.55	10.39	3916	198	200	.89	-.86	17.68
15	520	4000	9361	8463	10.24	10.07	3909	206	180	.80	-.77	17.14
15	560	4000	9694	8830	9.96	9.78	3902	213	164	.72	-.70	16.66
15	480	5000	10616	9365	12.34	12.19	4916	209	229	.94	-.90	20.70
15	520	5000	11055	9860	12.01	11.85	4909	218	208	.84	-.81	20.14
15	560	5000	11459	10311	11.72	11.56	4902	227	190	.76	-.74	19.65
25	360	1300	2542	2184	3.97	3.70	1197	77	103	1.34	-1.28	6.47
25	400	1300	2609	2262	3.70	3.42	1186	76	88	1.18	-1.13	6.01
25	440	1300	2665	2326	3.46	3.16	1174	75	75	1.05	-1.01	5.59
25	480	1300	2712	2380	3.25	2.94	1163	73	66	.95	-.91	5.22
25	520	1300	2752	2425	3.05	2.74	1152	71	58	.86	-.83	4.89
25	560	1300	2786	2464	2.88	2.56	1140	69	51	.79	-.76	4.59
25	360	1400	2712	2322	4.22	3.96	1297	80	108	1.35	-1.30	6.91
25	400	1400	2785	2408	3.94	3.66	1286	79	92	1.19	-1.14	6.42
25	440	1400	2848	2480	3.69	3.40	1274	78	80	1.06	-1.02	5.99
25	480	1400	2900	2540	3.47	3.16	1263	77	69	.95	-.92	5.60
25	520	1400	2945	2591	3.27	2.95	1252	75	61	.87	-.84	5.25
25	560	1400	2983	2634	3.09	2.76	1240	73	54	.79	-.77	4.94
25	360	1500	2879	2458	4.47	4.22	1397	83	114	1.37	-1.31	7.34
25	400	1500	2960	2552	4.18	3.91	1386	82	97	1.20	-1.15	6.83
25	440	1500	3028	2631	3.92	3.63	1374	81	84	1.07	-1.03	6.38
25	480	1500	3086	2697	3.69	3.39	1363	80	73	.96	-.93	5.97
25	520	1500	3136	2753	3.47	3.16	1352	78	64	.87	-.85	5.60
25	560	1500	3178	2801	3.29	2.97	1340	76	57	.80	-.78	5.28
25	360	2000	3686	3096	5.66	5.43	1897	95	139	1.42	-1.36	9.36
25	400	2000	3802	3233	5.32	5.07	1886	96	119	1.24	-1.20	8.77
25	440	2000	3901	3350	5.01	4.75	1874	95	103	1.11	-1.07	8.24
25	480	2000	3987	3450	4.74	4.45	1863	95	91	1.00	-.96	7.76
25	520	2000	4062	3536	4.48	4.19	1852	94	80	.91	-.88	7.32
25	560	2000	4126	3609	4.25	3.95	1840	92	71	.83	-.81	6.92

Table 6-11. (Sheet 30)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNOTS
25	360	2500	4451	3682	6.76	6.54	2397	104	162	1.45	-1.39	11.23
25	400	2500	4601	3862	6.38	6.15	2386	106	140	1.28	-1.23	10.58
25	440	2500	4732	4018	6.04	5.79	2374	107	122	1.14	-1.10	9.98
25	480	2500	4847	4153	5.72	5.46	2363	107	107	1.03	-.99	9.44
25	520	2500	4948	4270	5.43	5.16	2352	106	95	.93	-.90	8.94
25	560	2500	5036	4372	5.17	4.88	2340	106	84	.85	-.83	8.49
25	360	3000	5183	4227	7.79	7.58	2897	112	182	1.48	-1.42	12.97
25	400	3000	5367	4450	7.38	7.16	2886	115	158	1.31	-1.26	12.27
25	440	3000	5529	4645	7.01	6.77	2874	117	138	1.17	-1.12	11.62
25	480	3000	5673	4815	6.66	6.41	2863	117	122	1.05	-1.01	11.03
25	520	3000	5801	4965	6.34	6.08	2852	117	108	.95	-.92	10.48
25	560	3000	5912	5095	6.06	5.78	2840	117	97	.87	-.85	9.99
25	360	4000	6577	5220	9.67	9.49	3897	124	219	1.53	-1.47	16.17
25	400	4000	6822	5526	9.22	9.02	3886	128	191	1.35	-1.30	15.39
25	440	4000	7044	5798	8.80	8.58	3874	132	169	1.21	-1.17	14.67
25	480	4000	7244	6039	8.41	8.18	3863	134	150	1.09	-1.05	13.99
25	520	4000	7424	6254	8.04	7.80	3852	135	134	.99	-.96	13.37
25	560	4000	7583	6442	7.72	7.46	3840	137	120	.91	-.88	12.81
25	360	5000	7899	6115	11.39	11.22	4897	133	250	1.56	-1.50	19.08
25	400	5000	8201	6500	10.90	10.72	4886	138	220	1.38	-1.34	18.24
25	440	5000	8478	6846	10.45	10.25	4874	143	195	1.24	-1.20	17.46
25	480	5000	8731	7157	10.02	9.80	4863	147	174	1.12	-1.08	16.73
25	520	5000	8962	7437	9.62	9.39	4852	149	156	1.02	-.99	16.04
25	560	5000	9166	7682	9.27	9.03	4840	152	141	.93	-.91	15.44
25	400	6000	9524	7396	12.46	12.29	5886	146	246	1.41	-1.36	20.89
25	440	6000	9851	7813	11.98	11.79	5874	152	219	1.26	-1.22	20.06
25	480	6000	10154	8192	11.52	11.32	5863	157	196	1.14	-1.11	19.28
25	520	6000	10432	8534	11.10	10.88	5852	161	177	1.04	-1.01	18.55
25	560	6000	10679	8834	10.74	10.51	5840	165	161	.96	-.93	17.93
30	360	1700	2886	2333	4.46	4.19	1578	71	108	1.53	-1.47	7.30
30	400	1700	2951	2413	4.15	3.86	1565	70	92	1.35	-1.30	6.77
30	440	1700	3006	2479	3.88	3.58	1551	69	79	1.21	-1.17	6.29
30	480	1700	3051	2534	3.63	3.32	1538	67	69	1.10	-1.06	5.87
30	520	1700	3090	2580	3.42	3.09	1524	65	61	1.00	-.97	5.49
30	560	1700	3122	2619	3.22	2.89	1511	63	54	.92	-.89	5.16
30	360	1800	3037	2447	4.68	4.41	1678	73	113	1.54	-1.48	7.68
30	400	1800	3107	2533	4.36	4.08	1665	72	96	1.36	-1.31	7.12
30	440	1800	3166	2605	4.08	3.78	1651	71	83	1.22	-1.18	6.63
30	480	1800	3216	2665	3.83	3.52	1638	69	72	1.10	-1.07	6.20
30	520	1800	3258	2716	3.60	3.28	1624	68	63	1.01	-.98	5.80
30	560	1800	3294	2758	3.40	3.07	1611	66	56	.92	-.90	5.46
30	360	1900	3187	2559	4.90	4.64	1778	75	117	1.55	-1.48	8.05
30	400	1900	3262	2652	4.57	4.29	1765	75	100	1.37	-1.32	7.48
30	440	1900	3326	2729	4.28	3.98	1751	73	86	1.23	-1.18	6.97
30	480	1900	3379	2795	4.01	3.71	1738	72	75	1.11	-1.07	6.52
30	520	1900	3425	2849	3.78	3.46	1724	70	66	1.01	-.98	6.11
30	560	1900	3464	2896	3.57	3.24	1711	68	59	.93	-.90	5.75
30	360	2000	3335	2669	5.12	4.85	1878	77	121	1.55	-1.49	8.41
30	400	2000	3416	2769	4.78	4.50	1865	77	104	1.37	-1.32	7.83
30	440	2000	3484	2852	4.47	4.18	1851	76	90	1.23	-1.19	7.30
30	480	2000	3541	2923	4.20	3.90	1838	74	78	1.11	-1.08	6.84
30	520	2000	3591	2982	3.96	3.64	1824	73	69	1.02	-.99	6.42
30	560	2000	3633	3032	3.74	3.42	1811	71	61	.93	-.91	6.04

Table 6-11. (Sheet 31)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS FT/KNOTS
30	360	2500	4059	3197	6.15	5.90	2378	86	142	1.58	-1.52	10.17
30	400	2500	4165	3332	5.77	5.51	2365	87	122	1.40	-1.35	9.51
30	440	2500	4257	3446	5.42	5.15	2351	86	106	1.26	-1.22	8.92
30	480	2500	4336	3542	5.11	4.82	2338	85	92	1.14	-1.10	8.38
30	520	2500	4404	3625	4.83	4.53	2324	84	81	1.04	-1.01	7.90
30	560	2500	4462	3696	4.58	4.27	2311	82	72	.95	-.93	7.46
30	360	3000	4757	3692	7.13	6.89	2878	94	160	1.60	-1.54	11.83
30	400	3000	4890	3861	6.71	6.46	2865	95	138	1.42	-1.37	11.11
30	440	3000	5005	4006	6.33	6.06	2851	95	120	1.28	-1.24	10.46
30	480	3000	5105	4131	5.98	5.70	2838	94	106	1.16	-1.12	9.86
30	520	3000	5193	4239	5.67	5.38	2824	93	93	1.06	-1.03	9.32
30	560	3000	5268	4331	5.38	5.08	2811	92	83	.97	-.95	8.83
30	360	3500	5436	4159	8.05	7.83	3378	100	177	1.62	-1.56	13.40
30	400	3500	5593	4363	7.60	7.36	3365	102	154	1.44	-1.39	12.63
30	440	3500	5732	4540	7.19	6.94	3351	103	134	1.30	-1.25	11.92
30	480	3500	5854	4693	6.81	6.55	3338	103	118	1.17	-1.14	11.28
30	520	3500	5961	4826	6.47	6.19	3324	102	105	1.07	-1.04	10.69
30	560	3500	6054	4940	6.17	5.87	3311	101	94	.99	-.96	10.16
30	360	4000	6097	4602	8.93	8.72	3878	106	193	1.64	-1.58	14.89
30	400	4000	6279	4841	8.46	8.23	3865	108	168	1.46	-1.41	14.08
30	440	4000	6441	5049	8.02	7.78	3851	109	147	1.31	-1.27	13.33
30	480	4000	6585	5230	7.62	7.36	3838	110	130	1.19	-1.15	12.64
30	520	4000	6712	5390	7.25	6.98	3824	110	116	1.08	-1.05	12.01
30	560	4000	6822	5527	6.92	6.64	3811	110	104	1.00	-.97	11.44
30	360	4500	6744	5024	9.77	9.57	4378	110	208	1.65	-1.59	16.33
30	400	4500	6950	5297	9.28	9.06	4365	113	182	1.47	-1.42	15.47
30	440	4500	7135	5536	8.82	8.58	4351	115	160	1.32	-1.28	14.68
30	480	4500	7299	5747	8.39	8.14	4338	116	142	1.20	-1.16	13.95
30	520	4500	7446	5932	8.00	7.74	4324	117	126	1.10	-1.07	13.28
30	560	4500	7574	6093	7.66	7.38	4311	117	113	1.01	-.98	12.69
30	360	5000	7380	5428	10.58	10.39	4878	114	222	1.66	-1.60	17.70
30	400	5000	7608	5734	10.07	9.86	4865	118	194	1.48	-1.43	16.81
30	440	5000	7814	6005	9.59	9.36	4851	121	172	1.33	-1.29	15.99
30	480	5000	8000	6245	9.14	8.90	4838	122	152	1.21	-1.17	15.23
30	520	5000	8166	6456	8.73	8.48	4824	123	136	1.11	-1.08	14.52
30	560	5000	8312	6639	8.37	8.11	4811	124	123	1.02	-1.00	13.91
30	360	6000	8620	6189	12.12	11.94	5878	121	247	1.67	-1.62	20.30
30	400	6000	8891	6562	11.57	11.37	5865	126	218	1.50	-1.45	19.36
30	440	6000	9139	6894	11.05	10.84	5851	130	193	1.35	-1.31	18.48
30	480	6000	9365	7190	10.57	10.35	5838	132	173	1.23	-1.19	17.66
30	520	6000	9569	7454	10.13	9.89	5824	134	155	1.12	-1.09	16.90
30	560	6000	9748	7682	9.76	9.50	5811	136	140	1.04	-1.01	16.25
30	400	7000	10139	7334	12.98	12.80	6865	133	239	1.51	-1.46	21.76
30	440	7000	10426	7726	12.44	12.24	6851	137	213	1.36	-1.32	20.83
30	480	7000	10690	8079	11.93	11.72	6838	141	191	1.24	-1.21	19.96
30	520	7000	10930	8394	11.47	11.24	6824	144	172	1.14	-1.11	19.17
30	560	7000	11140	8666	11.08	10.84	6811	147	156	1.06	-1.03	18.50
30	440	8000	11682	8512	13.76	13.56	7851	144	231	1.37	-1.33	23.06
30	480	8000	11981	8919	13.23	13.02	7838	148	208	1.25	-1.22	22.15
30	520	8000	12255	9284	12.75	12.53	7824	152	188	1.15	-1.12	21.34
30	560	8000	12494	9597	12.36	12.12	7811	156	172	1.07	-1.05	20.66

Table 6-11. (Sheet 32)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNOTS
45	360	2300	2998	1923	4.55	4.25	2128	47	91	1.94	-1.88	7.43
45	400	2300	3032	1976	4.21	3.89	2109	46	78	1.74	-1.69	6.83
45	440	2300	3060	2019	3.90	3.58	2090	44	67	1.58	-1.54	6.31
45	480	2300	3084	2054	3.64	3.30	2071	42	58	1.44	-1.41	5.86
45	520	2300	3103	2083	3.41	3.06	2052	41	51	1.33	-1.29	5.46
45	560	2300	3119	2107	3.20	2.85	2033	39	45	1.23	-1.20	5.11
45	360	2400	3121	1995	4.73	4.43	2228	48	94	1.94	-1.88	7.73
45	400	2400	3157	2051	4.37	4.06	2209	47	80	1.75	-1.70	7.11
45	440	2400	3187	2097	4.06	3.73	2190	45	69	1.58	-1.54	6.58
45	480	2400	3212	2135	3.79	3.45	2171	44	60	1.45	-1.41	6.11
45	520	2400	3233	2166	3.54	3.20	2152	42	53	1.33	-1.30	5.69
45	560	2400	3250	2192	3.33	2.98	2133	41	47	1.23	-1.20	5.33
45	360	2500	3244	2067	4.90	4.60	2328	49	96	1.94	-1.88	8.02
45	400	2500	3282	2127	4.53	4.22	2309	48	82	1.75	-1.70	7.39
45	440	2500	3314	2176	4.21	3.89	2290	47	71	1.59	-1.54	6.84
45	480	2500	3341	2216	3.93	3.60	2271	45	62	1.45	-1.41	6.35
45	520	2500	3363	2249	3.68	3.34	2252	43	54	1.33	-1.30	5.93
45	560	2500	3381	2277	3.46	3.11	2233	42	48	1.23	-1.21	5.55
45	360	3000	3851	2415	5.74	5.46	2828	55	109	1.95	-1.89	9.45
45	400	3000	3901	2493	5.33	5.03	2809	54	94	1.76	-1.71	8.74
45	440	3000	3942	2558	4.97	4.65	2790	52	81	1.59	-1.55	8.12
45	480	3000	3977	2611	4.64	4.32	2771	51	71	1.46	-1.42	7.57
45	520	3000	4006	2656	4.36	4.02	2752	49	62	1.34	-1.31	7.08
45	560	3000	4031	2693	4.11	3.77	2733	48	55	1.25	-1.22	6.65
45	360	3500	4450	2748	6.55	6.27	3328	60	121	1.95	-1.89	10.82
45	400	3500	4511	2845	6.10	5.81	3309	59	104	1.76	-1.71	10.05
45	440	3500	4562	2926	5.70	5.39	3290	58	90	1.60	-1.56	9.36
45	480	3500	4606	2994	5.34	5.02	3271	56	79	1.47	-1.43	8.74
45	520	3500	4643	3050	5.02	4.69	3252	55	70	1.35	-1.32	8.20
45	560	3500	4674	3098	4.74	4.40	3233	54	62	1.25	-1.23	7.72
45	360	4000	5041	3068	7.33	7.06	3828	64	132	1.95	-1.89	12.15
45	400	4000	5113	3185	6.84	6.56	3809	64	114	1.76	-1.71	11.31
45	440	4000	5174	3283	6.40	6.11	3790	63	99	1.60	-1.56	10.56
45	480	4000	5227	3365	6.01	5.71	3771	62	87	1.47	-1.43	9.89
45	520	4000	5272	3434	5.67	5.35	3752	60	77	1.36	-1.33	9.29
45	560	4000	5310	3493	5.36	5.03	3733	59	69	1.26	-1.23	8.77
45	360	4500	5625	3375	8.08	7.82	4328	68	143	1.94	-1.89	13.42
45	400	4500	5709	3513	7.56	7.29	4309	68	124	1.76	-1.71	12.53
45	440	4500	5780	3628	7.09	6.81	4290	67	108	1.60	-1.56	11.73
45	480	4500	5842	3726	6.67	6.37	4271	66	95	1.47	-1.44	11.01
45	520	4500	5895	3809	6.30	5.99	4252	65	84	1.36	-1.33	10.37
45	560	4500	5941	3878	5.97	5.65	4233	64	75	1.27	-1.24	9.81
45	360	5000	6204	3673	8.81	8.56	4828	71	153	1.94	-1.88	14.66
45	400	5000	6298	3830	8.26	8.00	4809	72	133	1.76	-1.71	13.72
45	440	5000	6380	3963	7.77	7.49	4790	71	116	1.60	-1.56	12.87
45	480	5000	6451	4076	7.32	7.03	4771	70	102	1.48	-1.44	12.11
45	520	5000	6513	4173	6.92	6.61	4752	69	91	1.36	-1.33	11.42
45	560	5000	6565	4255	6.57	6.25	4733	68	81	1.27	-1.24	10.82
45	360	6000	7346	4238	10.21	9.97	5828	78	171	1.92	-1.87	17.03
45	400	6000	7462	4436	9.61	9.36	5809	78	150	1.75	-1.71	16.00
45	440	6000	7564	4606	9.06	8.79	5790	79	132	1.60	-1.56	15.07
45	480	6000	7654	4752	8.57	8.29	5771	78	116	1.48	-1.44	14.22
45	520	6000	7732	4877	8.12	7.83	5752	78	104	1.37	-1.34	13.46
45	560	6000	7799	4982	7.74	7.43	5733	77	93	1.28	-1.25	12.81

Table 6-11. (Sheet 33)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	RELEASE ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
45	360	7000	8472	4772	11.53	11.31	6828	83	188	1.91	-1.86	19.28
45	400	7000	8608	5010	10.89	10.65	6809	84	165	1.74	-1.70	18.18
45	440	7000	8730	5216	10.30	10.05	6790	85	146	1.60	-1.56	17.17
45	480	7000	8838	5395	9.77	9.49	6771	85	129	1.48	-1.44	16.25
45	520	7000	8933	5550	9.29	9.00	6752	85	116	1.37	-1.34	15.43
45	560	7000	9014	5679	8.88	8.58	6733	85	104	1.28	-1.26	14.74
45	360	8000	9584	5277	12.80	12.58	7826	87	203	1.89	-1.85	21.42
45	400	8000	9740	5556	12.12	11.89	7809	89	179	1.73	-1.69	20.26
45	440	8000	9881	5799	11.49	11.25	7790	90	159	1.59	-1.56	19.19
45	480	8000	10007	6011	10.92	10.66	7771	91	142	1.47	-1.44	18.21
45	520	8000	10118	6195	10.42	10.14	7752	91	127	1.37	-1.34	17.35
45	560	8000	10213	6349	10.00	9.70	7733	92	115	1.29	-1.26	16.62
45	360	9000	10685	5759	14.01	13.80	8828	91	217	1.87	-1.83	23.47
45	400	9000	10860	6077	13.29	13.07	8809	94	192	1.72	-1.68	22.25
45	440	9000	11019	6357	12.64	12.40	8790	95	171	1.59	-1.55	21.13
45	480	9000	11162	6602	12.04	11.79	8771	96	153	1.47	-1.44	20.11
45	520	9000	11289	6814	11.52	11.25	8752	97	138	1.37	-1.34	19.21
45	560	9000	11397	6992	11.08	10.80	8733	98	125	1.29	-1.27	18.46
45	360	10000	11776	6220	15.17	14.97	9828	94	230	1.86	-1.82	25.44
45	400	10000	11969	6577	14.43	14.22	9809	97	204	1.71	-1.67	24.17
45	440	10000	12145	6893	13.75	13.52	9790	100	182	1.58	-1.54	23.01
45	480	10000	12305	7170	13.13	12.89	9771	101	164	1.47	-1.44	21.96
45	520	10000	12447	7411	12.60	12.33	9752	103	148	1.37	-1.35	21.03
45	560	10000	12568	7613	12.15	11.87	9733	104	135	1.30	-1.27	20.27
60	360	3000	3336	1459	4.96	4.65	2790	32	73	2.22	-2.17	8.12
60	400	3000	3353	1497	4.57	4.25	2766	30	62	2.01	-1.98	7.45
60	440	3000	3367	1528	4.24	3.90	2743	29	54	1.84	-1.81	6.87
60	480	3000	3378	1554	3.94	3.60	2719	28	47	1.69	-1.66	6.36
60	520	3000	3388	1575	3.68	3.33	2696	27	42	1.57	-1.54	5.92
60	560	3000	3396	1592	3.46	3.10	2673	26	37	1.46	-1.43	5.53
60	360	4000	4416	1872	6.40	6.10	3790	37	87	2.19	-2.15	10.55
60	400	4000	4442	1931	5.93	5.62	3766	36	75	2.00	-1.96	9.74
60	440	4000	4463	1979	5.51	5.19	3743	35	65	1.84	-1.80	9.03
60	480	4000	4481	2019	5.15	4.81	3719	34	57	1.69	-1.66	8.40
60	520	4000	4496	2052	4.82	4.48	3696	33	51	1.57	-1.55	7.85
60	560	4000	4508	2080	4.54	4.19	3673	32	45	1.47	-1.44	7.37
60	360	5000	5487	2260	7.76	7.48	4790	42	100	2.16	-2.12	12.86
60	400	5000	5521	2341	7.21	6.92	4766	42	87	1.98	-1.94	11.93
60	440	5000	5550	2408	6.73	6.42	4743	41	76	1.82	-1.79	11.10
60	480	5000	5574	2464	6.30	5.98	4719	40	67	1.69	-1.66	10.37
60	520	5000	5595	2511	5.93	5.59	4696	39	59	1.57	-1.54	9.72
60	560	5000	5613	2550	5.60	5.26	4673	38	53	1.47	-1.45	9.17
60	360	6000	6550	2627	9.05	8.78	5790	46	112	2.13	-2.09	15.05
60	400	6000	6592	2731	8.45	8.16	5766	46	97	1.96	-1.92	14.01
60	440	6000	6629	2818	7.91	7.61	5743	45	85	1.81	-1.78	13.09
60	480	6000	6660	2891	7.42	7.11	5719	45	75	1.68	-1.65	12.27
60	520	6000	6687	2953	7.00	6.68	5696	44	67	1.56	-1.54	11.54
60	560	6000	6710	3004	6.64	6.30	5673	43	60	1.47	-1.45	10.92
60	360	7000	7606	2975	10.28	10.03	6790	50	122	2.10	-2.06	17.14
60	400	7000	7657	3103	9.63	9.35	6766	50	107	1.93	-1.90	16.02
60	440	7000	7701	3210	9.04	8.75	6743	50	94	1.79	-1.76	15.01
60	480	7000	7739	3301	8.51	8.21	6719	49	84	1.66	-1.64	14.11
60	520	7000	7773	3379	8.04	7.73	6696	48	75	1.56	-1.53	13.31
60	560	7000	7801	3443	7.65	7.32	6673	48	67	1.47	-1.45	12.64

Table 6-11. (Sheet 34)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
60	360	8000	8657	3308	11.47	11.22	7790	53	132	2.06	-2.03	19.15
60	400	8000	8716	3459	10.77	10.50	7766	53	116	1.91	-1.88	17.95
60	440	8000	8768	3587	10.13	9.85	7743	53	103	1.77	-1.74	16.87
60	480	8000	8813	3697	9.56	9.27	7719	53	91	1.65	-1.63	15.90
60	520	8000	8852	3790	9.07	8.76	7696	52	82	1.55	-1.53	15.04
60	560	8000	8886	3868	8.65	8.32	7673	52	74	1.46	-1.44	14.33
60	360	9000	9703	3626	12.61	12.37	8790	56	141	2.03	-2.00	21.08
60	400	9000	9770	3801	11.87	11.61	8766	56	125	1.89	-1.86	19.81
60	440	9000	9829	3951	11.19	10.92	8743	57	111	1.75	-1.73	18.67
60	480	9000	9881	4079	10.59	10.31	8719	57	99	1.64	-1.62	17.64
60	520	9000	9927	4189	10.07	9.77	8696	56	89	1.54	-1.52	16.74
60	560	9000	9966	4279	9.63	9.31	8673	56	80	1.46	-1.44	15.99
60	360	10000	10745	3933	13.71	13.48	9790	58	150	2.00	-1.97	22.95
60	400	10000	10820	4131	12.93	12.69	9766	59	132	1.86	-1.83	21.62
60	440	10000	10886	4302	12.23	11.96	9743	60	118	1.74	-1.71	20.42
60	480	10000	10945	4449	11.60	11.32	9719	60	106	1.63	-1.60	19.34
60	520	10000	10997	4575	11.05	10.76	9696	60	95	1.53	-1.51	18.41
60	560	10000	11040	4678	10.60	10.29	9673	60	87	1.46	-1.44	17.63
60	360	11000	11784	4228	14.78	14.55	10790	61	157	1.98	-1.95	24.75
60	400	11000	11866	4449	13.97	13.73	10766	62	140	1.84	-1.81	23.37
60	440	11000	11939	4642	13.24	12.98	10743	63	125	1.72	-1.70	22.12
60	480	11000	12005	4808	12.59	12.31	10719	63	112	1.62	-1.59	21.01
60	520	11000	12062	4949	12.02	11.73	10696	63	101	1.53	-1.51	20.05
60	560	11000	12111	5066	11.56	11.25	10673	64	92	1.45	-1.43	19.24
60	360	12000	12820	4513	15.81	15.60	11790	63	164	1.95	-1.92	26.51
60	400	12000	12909	4758	14.98	14.74	11766	64	147	1.82	-1.79	25.08
60	440	12000	12989	4971	14.22	13.97	11743	65	131	1.71	-1.68	23.79
60	480	12000	13060	5155	13.56	13.28	11719	66	118	1.61	-1.58	22.65
60	520	12000	13123	5312	12.98	12.69	11696	67	107	1.52	-1.50	21.66
60	560	12000	13177	5443	12.50	12.20	11673	67	98	1.45	-1.43	20.84

Table 6-11. (Sheet 35)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS DRIFT FT/KNOTS	CROSS CRAB FT/KNOTS
0	360	350	2724	2702	4.35	4.35	350	170	131	.36	-.34	7.35	.08
0	400	350	3020	3000	4.35	4.35	350	189	118	.30	-.28	7.35	.09
0	440	350	3316	3297	4.36	4.36	350	208	108	.24	-.23	7.35	.10
0	480	350	3612	3595	4.36	4.36	350	227	99	.21	-.20	7.36	.10
0	520	350	3907	3892	4.36	4.36	350	246	91	.18	-.17	7.36	.11
0	560	350	4202	4187	4.36	4.36	350	265	85	.15	-.15	7.36	.12
0	360	400	2922	2894	4.68	4.68	400	170	140	.39	-.37	7.89	.09
0	400	400	3238	3213	4.68	4.68	400	189	126	.31	-.30	7.90	.10
0	440	400	3555	3532	4.68	4.68	400	208	115	.26	-.25	7.90	.11
0	480	400	3871	3850	4.68	4.68	400	227	105	.22	-.21	7.90	.12
0	520	400	4187	4168	4.69	4.69	400	246	97	.19	-.18	7.91	.13
0	560	400	4502	4484	4.69	4.69	400	265	90	.16	-.16	7.91	.14
0	360	450	3108	3075	4.98	4.98	450	170	147	.41	-.39	8.41	.10
0	400	450	3443	3414	4.98	4.98	450	189	133	.33	-.32	8.41	.11
0	440	450	3779	3752	4.99	4.99	450	208	121	.28	-.26	8.42	.12
0	480	450	4114	4090	4.99	4.99	450	227	111	.23	-.22	8.42	.14
0	520	450	4450	4427	4.99	4.99	450	246	103	.20	-.19	8.42	.15
0	560	450	4784	4763	4.99	4.99	450	265	95	.17	-.17	8.43	.16
0	360	500	3284	3246	5.27	5.27	500	170	155	.43	-.41	8.89	.11
0	400	500	3638	3603	5.27	5.27	500	189	140	.35	-.33	8.90	.13
0	440	500	3991	3960	5.27	5.27	500	208	127	.29	-.28	8.90	.14
0	480	500	4345	4316	5.28	5.28	500	227	117	.24	-.23	8.91	.15
0	520	500	4699	4672	5.28	5.28	500	246	108	.21	-.20	8.91	.16
0	560	500	5051	5026	5.28	5.28	500	265	100	.18	-.17	8.92	.18
0	360	600	3613	3563	5.81	5.81	600	170	169	.47	-.44	9.80	.14
0	400	600	4000	3955	5.81	5.81	600	189	152	.38	-.36	9.80	.15
0	440	600	4387	4346	5.81	5.81	600	208	139	.32	-.30	9.81	.17
0	480	600	4775	4737	5.82	5.82	600	227	127	.27	-.26	9.82	.18
0	520	600	5162	5127	5.82	5.82	600	246	118	.23	-.22	9.82	.20
0	560	600	5547	5515	5.82	5.82	600	265	109	.20	-.19	9.83	.22
0	360	700	3917	3854	6.30	6.30	700	170	181	.50	-.48	10.63	.16
0	400	700	4335	4278	6.30	6.30	700	189	164	.41	-.39	10.64	.18
0	440	700	4753	4701	6.31	6.31	700	208	149	.34	-.33	10.64	.20
0	480	700	5170	5123	6.31	6.31	700	227	137	.29	-.28	10.65	.22
0	520	700	5588	5544	6.31	6.31	700	246	127	.25	-.24	10.66	.23
0	560	700	6004	5963	6.32	6.32	700	265	118	.21	-.21	10.66	.25
0	360	800	4202	4125	6.76	6.76	800	170	193	.54	-.51	11.41	.19
0	400	800	4648	4578	6.76	6.76	800	189	174	.44	-.42	11.42	.21
0	440	800	5094	5030	6.77	6.77	800	208	159	.36	-.35	11.42	.23
0	480	800	5540	5482	6.77	6.77	800	227	146	.31	-.29	11.43	.25
0	520	800	5985	5932	6.78	6.78	800	246	135	.26	-.25	11.44	.27
0	560	800	6429	6379	6.78	6.78	800	265	126	.23	-.22	11.45	.29
0	360	900	4471	4379	7.19	7.19	900	170	204	.57	-.54	12.14	.21
0	400	900	4942	4860	7.20	7.20	900	189	184	.46	-.44	12.15	.23
0	440	900	5415	5339	7.20	7.20	900	208	168	.39	-.37	12.15	.26
0	480	900	5887	5818	7.21	7.21	900	227	155	.33	-.31	12.16	.28
0	520	900	6359	6295	7.21	7.21	900	246	143	.28	-.27	12.17	.30
0	560	900	6829	6770	7.22	7.22	900	265	133	.24	-.23	12.18	.33
0	360	1000	4726	4619	7.60	7.60	1000	170	215	.60	-.56	12.83	.24
0	400	1000	5222	5126	7.61	7.61	1000	189	194	.49	-.46	12.84	.26
0	440	1000	5719	5631	7.61	7.61	1000	208	177	.40	-.39	12.85	.29
0	480	1000	6217	6136	7.62	7.62	1000	227	163	.34	-.33	12.86	.31
0	520	1000	6714	6639	7.62	7.62	1000	246	150	.29	-.28	12.87	.34
0	560	1000	7208	7138	7.63	7.63	1000	265	140	.25	-.25	12.88	.36

Table 6-11. (Sheet 36)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	RELEASE ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS DRIFT FT/KNOTS	CROSS CRAB FT/KNOTS
0	480	1500	7670	7522	9.42	9.42	1500	227	198	.42	-.40	15.90	.47
0	520	1500	8273	8136	9.43	9.43	1500	246	183	.36	-.34	15.91	.50
0	560	1500	8873	8745	9.44	9.44	1500	265	171	.31	-.30	15.93	.55
0	520	2000	9601	9391	10.96	10.96	2000	246	211	.41	-.40	18.49	.67
0	560	2000	10287	10091	10.97	10.97	2000	265	196	.36	-.35	18.51	.73

Table 6-11. (Sheet 37)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNOTS
10	360	800	2729	2610	4.34	4.22	770	99	125	.80	-.76	7.22
10	400	800	2884	2771	4.15	4.02	767	103	109	.69	-.66	6.89
10	440	800	3023	2915	3.97	3.83	764	106	95	.60	-.57	6.58
10	480	800	3148	3044	3.80	3.66	761	109	84	.52	-.50	6.30
10	520	800	3260	3161	3.65	3.49	757	110	75	.47	-.45	6.03
10	560	800	3362	3265	3.50	3.34	754	112	67	.42	-.41	5.77
10	360	900	2977	2837	4.73	4.61	870	102	135	.83	-.79	7.88
10	400	900	3150	3019	4.53	4.41	867	107	117	.71	-.68	7.54
10	440	900	3307	3182	4.34	4.21	864	110	103	.61	-.59	7.22
10	480	900	3449	3330	4.17	4.03	861	113	91	.54	-.52	6.92
10	520	900	3578	3463	4.00	3.85	857	116	81	.48	-.46	6.63
10	560	900	3694	3583	3.85	3.69	854	117	73	.43	-.42	6.37
10	360	1000	3214	3055	5.10	4.99	970	105	144	.85	-.81	8.51
10	400	1000	3406	3256	4.89	4.78	967	110	125	.73	-.69	8.16
10	440	1000	3581	3438	4.70	4.57	964	114	110	.63	-.60	7.83
10	480	1000	3739	3603	4.52	4.38	961	118	98	.55	-.53	7.51
10	520	1000	3884	3753	4.35	4.20	957	120	87	.49	-.47	7.22
10	560	1000	4015	3889	4.19	4.03	954	123	79	.44	-.43	6.94
10	360	1500	4293	4023	6.76	6.67	1470	115	184	.95	-.91	11.33
10	400	1500	4569	4316	6.53	6.43	1467	122	161	.81	-.77	10.94
10	440	1500	4825	4586	6.32	6.21	1464	128	143	.70	-.67	10.57
10	480	1500	5062	4835	6.11	5.99	1461	134	128	.61	-.59	10.21
10	520	1500	5282	5064	5.91	5.79	1457	138	115	.54	-.52	9.87
10	560	1500	5484	5275	5.73	5.59	1454	142	104	.49	-.47	9.55
10	360	2000	5248	4852	8.19	8.11	1970	122	218	1.03	-.98	13.76
10	400	2000	5596	5227	7.95	7.87	1967	130	192	.88	-.84	13.35
10	440	2000	5923	5576	7.72	7.63	1964	138	171	.76	-.73	12.95
10	480	2000	6231	5901	7.50	7.40	1961	144	153	.66	-.64	12.57
10	520	2000	6519	6204	7.29	7.18	1957	150	138	.59	-.57	12.21
10	560	2000	6786	6485	7.09	6.97	1954	156	126	.53	-.51	11.86
10	400	2500	6534	6037	9.23	9.15	2467	136	219	.93	-.89	15.51
10	440	2500	6925	6458	8.99	8.90	2464	144	196	.81	-.77	15.10
10	480	2500	7295	6854	8.75	8.66	2461	152	176	.71	-.68	14.70
10	520	2500	7645	7225	8.53	8.43	2457	159	159	.63	-.60	14.31
10	560	2500	7972	7570	8.32	8.21	2454	166	145	.56	-.54	13.95
10	440	3000	7857	7261	10.15	10.07	2964	149	218	.85	-.82	17.06
10	480	3000	8284	7722	9.91	9.82	2961	158	197	.74	-.72	16.65
10	520	3000	8691	8157	9.67	9.58	2957	166	179	.66	-.64	16.25
10	560	3000	9072	8562	9.46	9.36	2954	173	163	.59	-.57	15.88
15	360	1000	2699	2507	4.27	4.12	956	80	120	1.01	-.96	7.08
15	400	1000	2816	2632	4.04	3.88	951	81	103	.87	-.83	6.68
15	440	1000	2918	2742	3.82	3.65	946	82	90	.76	-.73	6.31
15	480	1000	3008	2837	3.63	3.45	941	83	79	.68	-.65	5.97
15	520	1000	3087	2920	3.45	3.26	936	82	70	.61	-.59	5.66
15	560	1000	3155	2993	3.29	3.09	932	82	62	.55	-.54	5.38
15	360	1500	3709	3392	5.81	5.68	1456	92	156	1.09	-1.04	9.70
15	400	1500	3891	3590	5.54	5.40	1451	95	136	.94	-.90	9.23
15	440	1500	4054	3766	5.29	5.14	1446	98	119	.82	-.79	8.80
15	480	1500	4200	3923	5.05	4.89	1441	100	105	.73	-.70	8.39
15	520	1500	4330	4062	4.83	4.66	1436	101	93	.66	-.63	8.01
15	560	1500	4447	4186	4.63	4.45	1432	101	84	.59	-.58	7.66

Table 6-11. (Sheet 38)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNOTS
15	360	2000	4620	4165	7.17	7.06	1956	100	187	1.16	-1.10	12.01
15	400	2000	4862	4431	6.87	6.75	1951	105	164	1.00	-.96	11.49
15	440	2000	5082	4671	6.59	6.46	1946	109	144	.87	-.84	11.01
15	480	2000	5281	4888	6.32	6.18	1941	111	128	.77	-.75	10.55
15	520	2000	5463	5083	6.08	5.92	1936	114	114	.69	-.67	10.13
15	560	2000	5626	5259	5.85	5.69	1932	115	103	.63	-.61	9.73
15	360	2500	5464	4859	8.40	8.30	2456	106	215	1.21	-1.16	14.09
15	400	2500	5760	5189	8.08	7.97	2451	112	188	1.05	-1.00	13.54
15	440	2500	6032	5490	7.78	7.65	2446	117	167	.92	-.88	13.02
15	480	2500	6283	5764	7.49	7.36	2441	121	148	.81	-.78	12.53
15	520	2500	6513	6014	7.22	7.08	2436	124	133	.73	-.70	12.07
15	560	2500	6722	6240	6.97	6.82	2432	127	120	.66	-.64	11.64
15	360	3000	6259	5493	9.53	9.43	2956	111	239	1.26	-1.20	16.00
15	400	3000	6604	5884	9.20	9.09	2951	117	211	1.09	-1.04	15.43
15	440	3000	6926	6242	8.88	8.76	2946	123	187	.95	-.92	14.89
15	480	3000	7224	6572	8.58	8.45	2941	128	167	.84	-.81	14.37
15	520	3000	7500	6874	8.29	8.16	2936	132	151	.76	-.73	13.88
15	560	3000	7753	7149	8.03	7.89	2932	135	136	.68	-.66	13.43
15	440	4000	8587	7598	10.88	10.78	3946	132	224	1.01	-.98	18.27
15	480	4000	8972	8031	10.55	10.44	3941	139	201	.90	-.87	17.72
15	520	4000	9333	8432	10.24	10.12	3936	144	182	.80	-.78	17.19
15	560	4000	9665	8798	9.96	9.83	3932	149	166	.73	-.71	16.70
15	480	5000	10589	9334	12.34	12.23	4941	146	231	.94	-.91	20.73
15	520	5000	11026	9828	12.01	11.90	4936	153	209	.85	-.82	20.18
15	560	5000	11428	10276	11.72	11.61	4932	159	192	.77	-.74	19.69
25	360	1300	2532	2173	3.97	3.78	1228	54	105	1.37	-1.31	6.54
25	400	1300	2599	2251	3.70	3.50	1220	54	90	1.20	-1.16	6.08
25	440	1300	2655	2315	3.46	3.25	1212	53	78	1.07	-1.03	5.67
25	480	1300	2702	2369	3.25	3.03	1204	52	68	.97	-.93	5.30
25	520	1300	2743	2415	3.05	2.83	1196	50	60	.88	-.85	4.97
25	560	1300	2777	2454	2.88	2.65	1188	49	53	.81	-.78	4.67
25	360	1400	2702	2311	4.22	4.04	1328	56	111	1.38	-1.32	6.98
25	400	1400	2775	2396	3.94	3.75	1320	56	95	1.21	-1.16	6.49
25	440	1400	2838	2468	3.69	3.49	1312	55	82	1.08	-1.04	6.06
25	480	1400	2890	2528	3.47	3.26	1304	54	71	.97	-.94	5.67
25	520	1400	2935	2580	3.27	3.05	1296	53	63	.89	-.86	5.33
25	560	1400	2973	2623	3.09	2.86	1288	52	56	.81	-.79	5.02
25	360	1500	2869	2445	4.47	4.29	1428	58	116	1.39	-1.33	7.40
25	400	1500	2949	2540	4.18	3.99	1420	58	99	1.22	-1.17	6.90
25	440	1500	3018	2619	3.92	3.72	1412	57	86	1.09	-1.05	6.45
25	480	1500	3076	2685	3.69	3.48	1404	56	75	.98	-.95	6.05
25	520	1500	3125	2742	3.47	3.26	1396	55	66	.89	-.86	5.68
25	560	1500	3168	2790	3.29	3.06	1388	54	59	.82	-.79	5.36
25	360	2000	3674	3082	5.66	5.50	1928	67	141	1.43	-1.37	9.42
25	400	2000	3789	3219	5.32	5.15	1920	67	121	1.26	-1.21	8.83
25	440	2000	3889	3335	5.01	4.83	1912	67	105	1.12	-1.08	8.31
25	480	2000	3975	3436	4.74	4.54	1904	67	92	1.01	-.98	7.83
25	520	2000	4050	3522	4.48	4.28	1896	66	82	.92	-.89	7.39
25	560	2000	4115	3596	4.25	4.04	1888	65	73	.84	-.82	7.00

Table 6-11. (Sheet 39)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
25	360	2500	4438	3667	6.76	6.61	2428	73	164	1.47	-1.41	11.28
25	400	2500	4588	3847	6.38	6.22	2420	75	141	1.29	-1.24	10.63
25	440	2500	4719	4002	6.04	5.86	2412	75	123	1.15	-1.11	10.04
25	480	2500	4834	4137	5.72	5.54	2404	75	109	1.04	-1.00	9.50
25	520	2500	4935	4254	5.43	5.24	2396	75	96	.94	-.91	9.01
25	560	2500	5022	4356	5.17	4.97	2388	74	86	.86	-.84	8.56
25	360	3000	5170	4210	7.79	7.64	2928	79	184	1.50	-1.44	13.02
25	400	3000	5353	4433	7.38	7.22	2920	81	160	1.32	-1.27	12.32
25	440	3000	5515	4627	7.01	6.84	2912	82	140	1.18	-1.14	11.68
25	480	3000	5658	4798	6.66	6.48	2904	82	124	1.06	-1.03	11.09
25	520	3000	5786	4947	6.34	6.16	2896	83	110	.96	-.93	10.55
25	560	3000	5897	5077	6.06	5.86	2888	82	98	.88	-.86	10.06
25	360	4000	6562	5202	9.67	9.54	3928	87	220	1.54	-1.48	16.22
25	400	4000	6806	5507	9.22	9.08	3920	90	193	1.36	-1.31	15.44
25	440	4000	7028	5778	8.80	8.65	3912	92	170	1.22	-1.18	14.72
25	480	4000	7227	6019	8.41	8.24	3904	94	151	1.10	-1.06	14.05
25	520	4000	7407	6234	8.04	7.87	3896	95	135	1.00	-.97	13.43
25	560	4000	7566	6422	7.72	7.54	3888	96	122	.91	-.89	12.87
25	360	5000	7884	6095	11.39	11.27	4928	93	252	1.57	-1.51	19.12
25	400	5000	8184	6480	10.90	10.77	4920	97	222	1.39	-1.34	18.29
25	440	5000	8460	6825	10.45	10.31	4912	100	197	1.25	-1.21	17.51
25	480	5000	8713	7135	10.02	9.87	4904	103	176	1.13	-1.09	16.78
25	520	5000	8943	7415	9.62	9.46	4896	105	158	1.02	-.99	16.10
25	560	5000	9147	7660	9.27	9.10	4888	107	143	.94	-.92	15.50
25	400	6000	9507	7374	12.46	12.34	5920	103	247	1.42	-1.37	20.93
25	440	6000	9833	7791	11.98	11.85	5912	107	221	1.27	-1.23	20.10
25	480	6000	10135	8168	11.52	11.38	5904	110	198	1.15	-1.11	19.33
25	520	6000	10413	8510	11.10	10.95	5896	113	178	1.05	-1.02	18.61
25	560	6000	10659	8810	10.74	10.58	5888	116	162	.96	-.94	17.99
30	360	1700	2878	2322	4.46	4.27	1615	50	110	1.55	-1.49	7.37
30	400	1700	2943	2402	4.15	3.95	1605	49	94	1.38	-1.33	6.84
30	440	1700	2997	2469	3.88	3.67	1596	48	81	1.23	-1.19	6.37
30	480	1700	3043	2524	3.63	3.42	1587	47	71	1.12	-1.08	5.95
30	520	1700	3082	2571	3.42	3.19	1577	46	63	1.02	-.99	5.58
30	560	1700	3115	2610	3.22	2.99	1568	45	56	.94	-.91	5.25
30	360	1800	3029	2436	4.68	4.49	1715	52	115	1.56	-1.50	7.74
30	400	1800	3099	2522	4.36	4.16	1705	51	98	1.38	-1.33	7.20
30	440	1800	3158	2594	4.08	3.87	1696	50	85	1.24	-1.20	6.71
30	480	1800	3207	2655	3.83	3.61	1687	49	74	1.12	-1.09	6.27
30	520	1800	3250	2706	3.60	3.38	1677	48	65	1.02	-.99	5.89
30	560	1800	3286	2749	3.40	3.17	1668	47	58	.94	-.92	5.54
30	360	1900	3178	2547	4.90	4.72	1815	53	119	1.57	-1.50	8.12
30	400	1900	3253	2641	4.57	4.37	1805	53	102	1.39	-1.34	7.55
30	440	1900	3317	2719	4.28	4.07	1796	52	88	1.25	-1.20	7.05
30	480	1900	3371	2784	4.01	3.80	1787	51	77	1.13	-1.09	6.60
30	520	1900	3416	2839	3.78	3.56	1777	50	68	1.03	-1.00	6.19
30	560	1900	3455	2886	3.57	3.34	1768	48	60	.95	-.92	5.83
30	360	2000	3326	2657	5.12	4.93	1915	54	123	1.57	-1.51	8.48
30	400	2000	3406	2757	4.78	4.58	1905	54	106	1.39	-1.34	7.90
30	440	2000	3475	2841	4.47	4.27	1896	53	91	1.25	-1.21	7.38
30	480	2000	3532	2912	4.20	3.99	1887	52	80	1.13	-1.10	6.91
30	520	2000	3582	2971	3.96	3.74	1877	51	70	1.03	-1.00	6.50
30	560	2000	3624	3022	3.74	3.51	1868	50	63	.95	-.92	6.12

Table 6-11. (Sheet 40)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
30	360	2500	4049	3184	6.15	5.98	2415	61	144	1.60	-1.54	10.24
30	400	2500	4155	3319	5.77	5.58	2405	61	123	1.42	-1.37	9.58
30	440	2500	4247	3433	5.42	5.23	2396	61	107	1.27	-1.23	8.99
30	480	2500	4325	3530	5.11	4.91	2387	60	94	1.15	-1.12	8.46
30	520	2500	4393	3613	4.83	4.62	2377	59	83	1.05	-1.02	7.97
30	560	2500	4452	3684	4.58	4.36	2368	58	74	.97	-.94	7.54
30	360	3000	4746	3678	7.13	6.96	2915	66	162	1.62	-1.56	11.89
30	400	3000	4879	3847	6.71	6.53	2905	67	140	1.44	-1.39	11.17
30	440	3000	4994	3992	6.33	6.14	2896	67	122	1.29	-1.25	10.52
30	480	3000	5094	4117	5.98	5.79	2887	66	107	1.17	-1.13	9.93
30	520	3000	5182	4225	5.67	5.46	2877	66	95	1.07	-1.04	9.39
30	560	3000	5257	4317	5.38	5.17	2868	65	85	.98	-.96	8.91
30	360	3500	5424	4144	8.05	7.90	3415	70	179	1.64	-1.58	13.46
30	400	3500	5582	4348	7.60	7.43	3405	71	155	1.46	-1.40	12.69
30	440	3500	5720	4524	7.19	7.01	3396	72	136	1.31	-1.27	11.99
30	480	3500	5842	4677	6.81	6.63	3387	72	120	1.19	-1.15	11.34
30	520	3500	5949	4811	6.47	6.28	3377	72	106	1.08	-1.05	10.76
30	560	3500	6042	4925	6.17	5.96	3368	71	95	1.00	-.97	10.23
30	360	4000	6085	4586	8.93	8.78	3915	74	195	1.65	-1.59	14.95
30	400	4000	6267	4824	8.46	8.30	3905	76	170	1.47	-1.42	14.14
30	440	4000	6428	5032	8.02	7.85	3896	77	149	1.32	-1.28	13.39
30	480	4000	6572	5214	7.62	7.44	3887	77	132	1.20	-1.16	12.70
30	520	4000	6699	5373	7.25	7.06	3877	77	117	1.09	-1.06	12.07
30	560	4000	6809	5510	6.92	6.72	3868	77	105	1.01	-.98	11.52
30	360	4500	6732	5007	9.77	9.63	4415	77	210	1.66	-1.60	16.38
30	400	4500	6937	5280	9.28	9.12	4405	79	183	1.48	-1.43	15.53
30	440	4500	7121	5519	8.82	8.65	4396	81	161	1.33	-1.29	14.74
30	480	4500	7286	5730	8.39	8.22	4387	82	143	1.21	-1.17	14.02
30	520	4500	7432	5915	8.00	7.82	4377	82	128	1.11	-1.07	13.35
30	560	4500	7560	6075	7.66	7.46	4368	82	115	1.02	-.99	12.76
30	360	5000	7367	5410	10.58	10.45	4915	80	223	1.67	-1.61	17.75
30	400	5000	7595	5717	10.07	9.92	4905	83	196	1.49	-1.44	16.87
30	440	5000	7801	5987	9.59	9.43	4896	85	173	1.34	-1.30	16.05
30	480	5000	7986	6226	9.14	8.97	4887	86	154	1.22	-1.18	15.29
30	520	5000	8152	6438	8.73	8.55	4377	86	137	1.12	-1.08	14.59
30	560	5000	8297	6621	8.37	8.19	4868	87	124	1.03	-1.00	13.98
30	360	6000	8607	6171	12.12	11.99	5915	85	249	1.68	-1.62	20.35
30	400	6000	8877	6543	11.57	11.43	5905	88	219	1.50	-1.46	19.41
30	440	6000	9125	6874	11.05	10.91	5896	91	195	1.36	-1.32	18.53
30	480	6000	9350	7170	10.57	10.42	5887	93	174	1.24	-1.20	17.71
30	520	6000	9553	7434	10.13	9.97	5877	94	156	1.13	-1.10	16.96
30	560	6000	9732	7662	9.76	9.58	5868	96	141	1.05	-1.02	16.32
30	400	7000	10124	7315	12.98	12.85	6905	93	241	1.51	-1.47	21.80
30	440	7000	10411	7706	12.44	12.30	6896	96	214	1.37	-1.33	20.88
30	480	7000	10674	8058	11.93	11.78	6887	99	192	1.25	-1.21	20.01
30	520	7000	10913	8372	11.47	11.31	6877	101	173	1.15	-1.12	19.22
30	560	7000	11123	8644	11.08	10.91	6868	103	158	1.07	-1.04	18.56
30	440	8000	11666	8491	13.76	13.62	7896	101	233	1.38	-1.34	23.10
30	480	8000	11965	8897	13.23	13.08	7887	104	209	1.26	-1.23	22.21
30	520	8000	12238	9261	12.75	12.60	7877	106	189	1.16	-1.13	21.39
30	560	8000	12476	9574	12.36	12.19	7868	109	173	1.08	-1.05	20.72

Table 6-11. (Sheet 41)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	RELEASE ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
45	360	2300	2993	1916	4.55	4.34	2180	33	93	1.97	-1.91	7.51
45	400	2300	3028	1969	4.21	3.99	2166	32	79	1.77	-1.72	6.91
45	440	2300	3056	2012	3.90	3.68	2153	31	69	1.61	-1.56	6.40
45	480	2300	3079	2048	3.64	3.40	2140	30	60	1.47	-1.43	5.94
45	520	2300	3099	2077	3.41	3.16	2126	29	53	1.35	-1.32	5.55
45	560	2300	3115	2101	3.20	2.95	2113	28	47	1.25	-1.22	5.20
45	360	2400	3116	1988	4.73	4.52	2280	34	96	1.97	-1.91	7.80
45	400	2400	3153	2045	4.37	4.15	2266	33	82	1.77	-1.72	7.19
45	440	2400	3183	2091	4.06	3.83	2253	32	71	1.61	-1.56	6.66
45	480	2400	3208	2129	3.79	3.55	2240	31	62	1.47	-1.43	6.19
45	520	2400	3229	2160	3.54	3.30	2226	30	54	1.35	-1.32	5.78
45	560	2400	3247	2186	3.33	3.09	2213	29	48	1.25	-1.23	5.42
45	360	2500	3239	2059	4.90	4.69	2380	35	98	1.97	-1.91	8.09
45	400	2500	3278	2120	4.53	4.32	2366	34	84	1.77	-1.72	7.47
45	440	2500	3310	2169	4.21	3.99	2353	33	73	1.61	-1.57	6.92
45	480	2500	3336	2209	3.93	3.70	2340	32	63	1.47	-1.43	6.44
45	520	2500	3359	2243	3.68	3.44	2326	31	56	1.35	-1.32	6.01
45	560	2500	3377	2271	3.46	3.22	2313	30	50	1.26	-1.23	5.64
45	360	3000	3846	2407	5.74	5.54	2880	39	111	1.97	-1.91	9.52
45	400	3000	3896	2485	5.33	5.12	2866	38	95	1.78	-1.72	8.82
45	440	3000	3937	2550	4.97	4.75	2853	37	82	1.61	-1.57	8.20
45	480	3000	3972	2603	4.64	4.42	2840	36	72	1.48	-1.44	7.65
45	520	3000	4002	2648	4.36	4.13	2826	35	64	1.36	-1.33	7.16
45	560	3000	4027	2686	4.11	3.87	2813	34	57	1.26	-1.24	6.73
45	360	3500	4444	2739	6.55	6.36	3380	42	123	1.97	-1.91	10.89
45	400	3500	4505	2837	6.10	5.89	3366	41	106	1.78	-1.73	10.12
45	440	3500	4557	2918	5.70	5.48	3353	41	92	1.62	-1.57	9.43
45	480	3500	4600	2985	5.34	5.12	3340	40	80	1.48	-1.45	8.82
45	520	3500	4637	3042	5.02	4.79	3326	39	71	1.37	-1.34	8.28
45	560	3500	4669	3090	4.74	4.51	3313	38	63	1.27	-1.24	7.80
45	360	4000	5035	3058	7.33	7.14	3880	45	134	1.96	-1.90	12.21
45	400	4000	5107	3175	6.84	6.64	3866	45	116	1.77	-1.73	11.38
45	440	4000	5169	3273	6.40	6.20	3853	44	101	1.62	-1.58	10.64
45	480	4000	5221	3356	6.01	5.80	3840	43	88	1.49	-1.45	9.97
45	520	4000	5266	3426	5.67	5.44	3826	42	78	1.37	-1.34	9.37
45	560	4000	5305	3484	5.36	5.13	3813	41	70	1.28	-1.25	8.86
45	360	4500	5619	3365	8.08	7.90	4380	48	144	1.95	-1.90	13.49
45	400	4500	5702	3502	7.56	7.37	4366	48	125	1.77	-1.72	12.60
45	440	4500	5774	3618	7.09	6.89	4353	47	109	1.62	-1.58	11.80
45	480	4500	5836	3716	6.67	6.46	4340	47	96	1.49	-1.45	11.09
45	520	4500	5889	3799	6.30	6.08	4326	46	85	1.37	-1.34	10.45
45	560	4500	5934	3869	5.97	5.74	4313	45	76	1.28	-1.25	9.89
45	360	5000	6198	3662	8.81	8.64	4880	50	154	1.95	-1.89	14.72
45	400	5000	6292	3819	8.26	8.08	4866	50	134	1.77	-1.72	13.79
45	440	5000	6374	3952	7.77	7.57	4853	50	117	1.62	-1.58	12.94
45	480	5000	6445	4066	7.32	7.11	4840	50	104	1.49	-1.45	12.18
45	520	5000	6506	4163	6.92	6.70	4826	49	92	1.38	-1.35	11.49
45	560	5000	6559	4244	6.57	6.35	4813	48	82	1.28	-1.26	10.90
45	360	6000	7339	4227	10.21	10.04	5880	54	173	1.93	-1.88	17.09
45	400	6000	7455	4425	9.61	9.43	5866	55	151	1.76	-1.72	16.07
45	440	6000	7557	4594	9.06	8.88	5853	55	133	1.61	-1.57	15.14
45	480	6000	7646	4740	8.57	8.37	5840	55	118	1.49	-1.45	14.29
45	520	6000	7725	4865	8.12	7.92	5826	54	105	1.38	-1.35	13.53
45	560	6000	7792	4971	7.74	7.53	5813	54	94	1.29	-1.26	12.89

Table 6-11. (Sheet 42)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
45	360	7000	8465	4759	11.53	11.38	6880	58	189	1.92	-1.87	19.33
45	400	7000	8601	4998	10.89	10.72	6866	59	166	1.75	-1.71	18.24
45	440	7000	8722	5204	10.30	10.12	6853	60	147	1.61	-1.57	17.24
45	480	7000	8830	5383	9.77	9.58	6840	60	131	1.48	-1.45	16.32
45	520	7000	8925	5537	9.29	9.09	6826	60	117	1.38	-1.35	15.51
45	560	7000	9006	5667	8.88	8.67	6813	60	106	1.29	-1.27	14.82
45	360	8000	9577	5264	12.80	12.65	7880	61	204	1.90	-1.85	21.47
45	400	8000	9733	5543	12.12	11.96	7866	63	180	1.74	-1.70	20.31
45	440	8000	9873	5785	11.49	11.32	7853	63	160	1.60	-1.56	19.25
45	480	8000	9998	5997	10.92	10.74	7840	64	143	1.48	-1.45	18.28
45	520	8000	10110	6181	10.42	10.22	7826	64	128	1.38	-1.35	17.42
45	560	8000	10204	6335	10.00	9.79	7813	65	116	1.30	-1.27	16.70
45	360	9000	10677	5745	14.01	13.86	8880	64	218	1.88	-1.84	23.52
45	400	9000	10852	6063	13.29	13.14	8866	66	193	1.73	-1.69	22.31
45	440	9000	11010	6343	12.64	12.47	8853	67	172	1.59	-1.56	21.19
45	480	9000	11153	6587	12.04	11.86	8840	68	154	1.48	-1.45	20.18
45	520	9000	11280	6800	11.52	11.33	8826	68	139	1.38	-1.35	19.28
45	560	9000	11388	6978	11.08	10.88	8813	69	126	1.30	-1.28	18.54
45	360	10000	11769	6206	15.17	15.03	9880	66	231	1.86	-1.82	25.49
45	400	10000	11961	6563	14.43	14.28	9866	68	205	1.71	-1.68	24.23
45	440	10000	12137	6878	13.75	13.59	9853	70	183	1.58	-1.55	23.07
45	480	10000	12296	7155	13.13	12.96	9840	71	165	1.47	-1.44	22.02
45	520	10000	12438	7396	12.60	12.41	9826	72	149	1.38	-1.35	21.10
45	560	10000	12558	7597	12.15	11.95	9813	73	136	1.30	-1.28	20.34
60	360	3000	3334	1454	4.96	4.75	2853	22	74	2.24	-2.20	8.19
60	400	3000	3351	1493	4.57	4.35	2836	21	64	2.04	-2.00	7.53
60	440	3000	3365	1524	4.24	4.00	2820	21	55	1.87	-1.83	6.95
60	480	3000	3377	1550	3.94	3.70	2804	20	48	1.72	-1.69	6.45
60	520	3000	3386	1571	3.68	3.44	2787	19	43	1.59	-1.56	6.01
60	560	3000	3394	1588	3.46	3.21	2771	19	38	1.48	-1.46	5.62
60	360	4000	4414	1867	6.40	6.19	3853	26	88	2.21	-2.17	10.63
60	400	4000	4439	1926	5.93	5.71	3836	26	76	2.02	-1.98	9.82
60	440	4000	4461	1974	5.51	5.29	3820	25	66	1.85	-1.82	9.11
60	480	4000	4478	2014	5.15	4.91	3804	24	58	1.71	-1.68	8.49
60	520	4000	4494	2047	4.82	4.58	3787	23	52	1.59	-1.56	7.94
60	560	4000	4506	2075	4.54	4.30	3771	23	46	1.49	-1.46	7.46
60	360	5000	5485	2254	7.76	7.56	4853	30	101	2.17	-2.13	12.93
60	400	5000	5518	2335	7.21	7.01	4836	29	88	1.99	-1.96	12.00
60	440	5000	5547	2402	6.73	6.52	4820	29	77	1.84	-1.80	11.18
60	480	5000	5572	2458	6.30	6.08	4804	28	68	1.70	-1.67	10.45
60	520	5000	5593	2505	5.93	5.69	4787	27	60	1.58	-1.56	9.81
60	560	5000	5610	2545	5.60	5.36	4771	27	54	1.48	-1.46	9.25
60	360	6000	6547	2620	9.05	8.86	5853	33	113	2.14	-2.10	15.12
60	400	6000	6589	2724	8.45	8.25	5836	32	98	1.97	-1.93	14.09
60	440	6000	6626	2811	7.91	7.70	5820	32	86	1.82	-1.79	13.17
60	480	6000	6657	2884	7.42	7.21	5804	31	76	1.69	-1.66	12.35
60	520	6000	6684	2946	7.00	6.77	5787	31	68	1.58	-1.55	11.62
60	560	6000	6707	2998	6.64	6.40	5771	30	61	1.48	-1.46	11.00
60	360	7000	7603	2968	10.28	10.10	6853	35	123	2.10	-2.07	17.21
60	400	7000	7654	3095	9.63	9.44	6836	35	108	1.94	-1.91	16.09
60	440	7000	7698	3203	9.04	8.84	6820	35	95	1.80	-1.77	15.08
60	480	7000	7736	3294	8.51	8.30	6804	34	85	1.67	-1.65	14.18
60	520	7000	7770	3372	8.04	7.82	6787	34	75	1.57	-1.54	13.39
60	560	7000	7798	3436	7.65	7.42	6771	34	68	1.48	-1.46	12.72

Table 6-11. (Sheet 43)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
60	360	8000	8654	3300	11.47	11.30	7853	37	133	2.07	-2.04	19.21
60	400	8000	8713	3451	10.77	10.58	7836	37	117	1.92	-1.89	18.02
60	440	8000	8764	3579	10.13	9.94	7820	37	104	1.78	-1.75	16.94
60	480	8000	8810	3689	9.56	9.36	7804	37	92	1.66	-1.64	15.97
60	520	8000	8849	3782	9.07	8.85	7787	37	83	1.56	-1.54	15.12
60	560	8000	8882	3860	8.65	8.42	7771	37	75	1.47	-1.45	14.41
60	360	9000	9700	3618	12.61	12.44	8853	39	142	2.04	-2.01	21.14
60	400	9000	9767	3793	11.87	11.69	8836	40	125	1.89	-1.86	19.88
60	440	9000	9826	3942	11.19	11.01	8820	40	111	1.76	-1.74	18.73
60	480	9000	9878	4071	10.59	10.39	8804	40	99	1.65	-1.62	17.71
60	520	9000	9923	4180	10.07	9.86	8787	40	89	1.55	-1.53	16.82
60	560	9000	9962	4271	9.63	9.41	8771	40	81	1.47	-1.45	16.07
60	360	10000	10742	3924	13.71	13.55	9853	41	150	2.01	-1.98	23.01
60	400	10000	10816	4122	12.93	12.76	9836	42	133	1.87	-1.84	21.68
60	440	10000	10883	4293	12.23	12.04	9820	42	119	1.74	-1.72	20.48
60	480	10000	10941	4440	11.60	11.40	9804	42	106	1.63	-1.61	19.41
60	520	10000	10993	4566	11.05	10.85	9787	42	96	1.54	-1.52	18.48
60	560	10000	11036	4669	10.60	10.38	9771	42	87	1.46	-1.45	17.71
60	360	11000	11781	4219	14.78	14.62	10853	42	158	1.98	-1.95	24.81
60	400	11000	11862	4440	13.97	13.80	10836	43	140	1.85	-1.82	23.43
60	440	11000	11936	4632	13.24	13.06	10820	44	126	1.73	-1.70	22.19
60	480	11000	12001	4798	12.59	12.39	10804	44	113	1.62	-1.60	21.08
60	520	11000	12058	4939	12.02	11.82	10787	44	102	1.53	-1.51	20.12
60	560	11000	12107	5057	11.56	11.34	10771	45	93	1.46	-1.44	19.32
60	360	12000	12817	4503	15.81	15.66	11853	44	165	1.96	-1.93	26.56
60	400	12000	12905	4748	14.98	14.81	11836	45	147	1.83	-1.80	25.14
60	440	12000	12985	4961	14.22	14.05	11820	46	132	1.71	-1.69	23.86
60	480	12000	13057	5145	13.56	13.37	11804	46	119	1.61	-1.59	22.72
60	520	12000	13119	5303	12.98	12.78	11787	47	108	1.53	-1.51	21.74
60	560	12000	13172	5433	12.50	12.29	11771	47	99	1.46	-1.44	20.92

Table 6-11. (Sheet 44)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS DRIFT	WIND CORRECTION FACTOR CROSS CRAB FT/KNOTS
0	360	350	2809	2787	4.35	4.35	350	340	127	.34	-.32	7.35	.08
0	400	350	3114	3094	4.35	4.35	350	378	115	.28	-.26	7.35	.09
0	440	350	3419	3401	4.36	4.36	350	416	104	.23	-.22	7.35	.10
0	480	350	3725	3708	4.36	4.36	350	454	96	.19	-.19	7.36	.10
0	520	350	4030	4014	4.36	4.36	350	491	88	.16	-.16	7.36	.11
0	560	350	4334	4320	4.36	4.36	350	529	82	.14	-.14	7.36	.12
0	360	400	3006	2979	4.68	4.68	400	340	136	.37	-.35	7.89	.09
0	400	400	3332	3308	4.68	4.68	400	378	122	.30	-.28	7.90	.10
0	440	400	3658	3636	4.68	4.68	400	416	111	.25	-.24	7.90	.11
0	480	400	3984	3964	4.68	4.68	400	454	102	.21	-.20	7.90	.12
0	520	400	4309	4291	4.69	4.69	400	491	94	.18	-.17	7.91	.13
0	560	400	4634	4616	4.69	4.69	400	529	88	.15	-.15	7.91	.14
0	360	450	3192	3160	4.98	4.98	450	340	143	.39	-.37	8.41	.10
0	400	450	3537	3508	4.98	4.98	450	378	129	.32	-.30	8.41	.11
0	440	450	3882	3856	4.99	4.99	450	416	118	.26	-.25	8.42	.12
0	480	450	4227	4203	4.99	4.99	450	454	108	.22	-.21	8.42	.14
0	520	450	4572	4550	4.99	4.99	450	491	100	.19	-.18	8.42	.15
0	560	450	4916	4895	4.99	4.99	450	529	93	.16	-.16	8.43	.16
0	360	500	3368	3331	5.27	5.27	500	340	151	.41	-.39	8.89	.11
0	400	500	3731	3698	5.27	5.27	500	378	136	.33	-.32	8.90	.13
0	440	500	4095	4064	5.27	5.27	500	416	124	.28	-.26	8.90	.14
0	480	500	4458	4430	5.28	5.28	500	454	114	.23	-.22	8.91	.15
0	520	500	4821	4795	5.28	5.28	500	491	105	.20	-.19	8.91	.16
0	560	500	5182	5158	5.28	5.28	500	529	98	.17	-.17	8.92	.18
0	360	600	3697	3648	5.81	5.81	600	340	165	.45	-.42	9.80	.14
0	400	600	4094	4049	5.81	5.81	600	378	149	.36	-.35	9.80	.15
0	440	600	4490	4450	5.81	5.81	600	416	135	.30	-.29	9.81	.17
0	480	600	4887	4850	5.82	5.82	600	454	124	.25	-.24	9.82	.18
0	520	600	5284	5250	5.82	5.82	600	491	115	.22	-.21	9.82	.20
0	560	600	5679	5647	5.82	5.82	600	529	107	.19	-.18	9.83	.22
0	360	700	4001	3939	6.30	6.30	700	340	178	.48	-.46	10.63	.16
0	400	700	4428	4372	6.30	6.30	700	378	160	.39	-.38	10.64	.18
0	440	700	4855	4805	6.31	6.31	700	416	146	.33	-.31	10.64	.20
0	480	700	5283	5236	6.31	6.31	700	454	134	.28	-.26	10.65	.22
0	520	700	5710	5667	6.31	6.31	700	491	124	.24	-.23	10.66	.23
0	560	700	6135	6095	6.32	6.32	700	529	115	.20	-.20	10.66	.25
0	360	800	4285	4210	6.76	6.76	800	340	189	.52	-.49	11.41	.19
0	400	800	4741	4673	6.76	6.76	800	378	171	.42	-.40	11.42	.21
0	440	800	5196	5134	6.77	6.77	800	416	156	.35	-.33	11.42	.23
0	480	800	5652	5595	6.77	6.77	800	454	143	.29	-.28	11.43	.25
0	520	800	6107	6055	6.78	6.78	800	491	132	.25	-.24	11.44	.27
0	560	800	6561	6512	6.78	6.78	800	529	123	.22	-.21	11.45	.29
0	360	900	4554	4464	7.19	7.19	900	340	200	.55	-.52	12.14	.21
0	400	900	5035	4954	7.20	7.20	900	378	181	.45	-.43	12.15	.23
0	440	900	5517	5443	7.20	7.20	900	416	165	.37	-.35	12.15	.26
0	480	900	5999	5931	7.21	7.21	900	454	152	.31	-.30	12.16	.28
0	520	900	6481	6418	7.21	7.21	900	491	140	.27	-.26	12.17	.30
0	560	900	6961	6902	7.22	7.22	900	529	131	.23	-.22	12.18	.33
0	360	1000	4809	4704	7.60	7.60	1000	340	211	.57	-.55	12.83	.24
0	400	1000	5315	5220	7.61	7.61	1000	378	191	.47	-.45	12.84	.26
0	440	1000	5822	5735	7.61	7.61	1000	416	174	.39	-.37	12.85	.29
0	480	1000	6329	6249	7.62	7.62	1000	454	160	.33	-.32	12.86	.31
0	520	1000	6835	6762	7.62	7.62	1000	491	148	.28	-.27	12.87	.34
0	560	1000	7339	7271	7.63	7.63	1000	529	138	.25	-.24	12.88	.36

Table 6-11. (Sheet 45)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS DRIFT FT/KNOTS	CRAB FT/KNOTS
0	440	1500	7168	7009	9.41	9.41	1500	416	212	.48	-.46	15.89	.43
0	480	1500	7781	7635	9.42	9.42	1500	454	195	.40	-.39	15.90	.47
0	520	1500	8394	8259	9.43	9.43	1500	491	180	.35	-.33	15.91	.50
0	560	1500	9004	8878	9.44	9.44	1500	529	168	.30	-.29	15.93	.55
0	520	2000	9722	9514	10.96	10.96	2000	491	208	.40	-.39	18.49	.67
0	560	2000	10417	10223	10.97	10.97	2000	529	194	.35	-.34	18.51	.73

Table 6-11. (Sheet 46)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNOTS
10	360	800	2776	2658	4.34	4.10	741	196	120	.77	-.73	7.12
10	400	800	2932	2821	4.15	3.89	734	204	104	.65	-.62	6.78
10	440	800	3073	2967	3.97	3.69	728	210	91	.57	-.54	6.47
10	480	800	3199	3098	3.80	3.51	721	215	80	.50	-.48	6.17
10	520	800	3313	3215	3.65	3.33	715	218	71	.44	-.43	5.89
10	560	800	3414	3319	3.50	3.17	708	220	64	.40	-.38	5.63
10	360	900	3025	2888	4.73	4.50	841	203	130	.79	-.76	7.79
10	400	900	3200	3071	4.53	4.28	834	212	112	.67	-.65	7.44
10	440	900	3359	3237	4.34	4.08	828	219	98	.58	-.56	7.11
10	480	900	3503	3385	4.17	3.88	821	225	87	.51	-.49	6.80
10	520	900	3633	3520	4.00	3.70	815	229	77	.46	-.44	6.50
10	560	900	3750	3640	3.85	3.53	808	232	69	.41	-.40	6.23
10	360	1000	3264	3107	5.10	4.88	941	209	139	.82	-.78	8.42
10	400	1000	3458	3310	4.89	4.66	934	219	121	.70	-.67	8.06
10	440	1000	3635	3495	4.70	4.44	928	227	106	.60	-.58	7.72
10	480	1000	3795	3661	4.52	4.24	921	234	94	.53	-.51	7.40
10	520	1000	3941	3812	4.35	4.06	915	239	83	.47	-.45	7.09
10	560	1000	4074	3949	4.19	3.88	908	243	75	.42	-.41	6.81
10	360	1500	4347	4080	6.76	6.58	1441	230	179	.92	-.88	11.25
10	400	1500	4626	4376	6.53	6.33	1434	244	157	.78	-.75	10.86
10	440	1500	4885	4649	6.32	6.10	1428	256	139	.68	-.65	10.48
10	480	1500	5125	4901	6.11	5.87	1421	267	124	.59	-.57	10.11
10	520	1500	5347	5133	5.91	5.66	1415	276	111	.52	-.51	9.77
10	560	1500	5552	5346	5.73	5.46	1408	283	100	.47	-.45	9.44
10	360	2000	5304	4913	8.19	8.03	1941	243	213	1.00	-.96	13.70
10	400	2000	5657	5291	7.95	7.78	1934	260	188	.85	-.82	13.28
10	440	2000	5988	5644	7.72	7.53	1928	275	167	.74	-.71	12.87
10	480	2000	6299	5973	7.50	7.29	1921	288	150	.64	-.62	12.48
10	520	2000	6590	6279	7.29	7.06	1915	300	135	.57	-.55	12.11
10	560	2000	6860	6562	7.09	6.85	1908	310	122	.51	-.49	11.76
10	400	2500	6597	6105	9.23	9.07	2434	271	215	.91	-.87	15.44
10	440	2500	6992	6530	8.99	8.81	2428	288	192	.79	-.76	15.02
10	480	2500	7367	6929	8.75	8.56	2421	303	173	.69	-.66	14.62
10	520	2500	7720	7304	8.53	8.33	2415	317	156	.61	-.59	14.23
10	560	2500	8051	7653	8.32	8.10	2408	330	142	.55	-.53	13.86
10	440	3000	7925	7336	10.15	9.98	2928	298	215	.83	-.80	16.99
10	480	3000	8358	7801	9.91	9.73	2921	315	193	.73	-.70	16.57
10	520	3000	8768	8239	9.67	9.48	2915	331	175	.64	-.62	16.17
10	560	3000	9154	8648	9.46	9.25	2908	346	160	.58	-.56	15.79
15	360	1000	2735	2546	4.27	3.97	912	158	115	.96	-.92	6.95
15	400	1000	2853	2672	4.04	3.72	902	161	98	.83	-.79	6.54
15	440	1000	2956	2782	3.82	3.48	892	163	85	.73	-.70	6.17
15	480	1000	3046	2877	3.63	3.27	883	163	75	.64	-.62	5.82
15	520	1000	3124	2960	3.45	3.07	873	162	66	.58	-.56	5.50
15	560	1000	3193	3032	3.29	2.89	863	161	59	.52	-.51	5.21
15	360	1500	3751	3438	5.81	5.56	1412	183	151	1.05	-1.01	9.59
15	400	1500	3935	3638	5.54	5.26	1402	189	131	.91	-.87	9.12
15	440	1500	4099	3815	5.29	4.99	1392	194	114	.79	-.76	8.67
15	480	1500	4246	3972	5.05	4.73	1383	197	101	.70	-.68	8.26
15	520	1500	4377	4112	4.83	4.49	1373	199	89	.63	-.61	7.87
15	560	1500	4493	4236	4.63	4.27	1363	200	80	.57	-.55	7.51

Table 6-11. (Sheet 47)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS FT/KNOTS
15	360	2000	4665	4215	7.17	6.94	1912	200	183	1.13	-1.08	11.91
15	400	2000	4909	4483	6.87	6.62	1902	209	159	.97	-.93	11.39
15	440	2000	5131	4725	6.59	6.32	1892	216	140	.85	-.82	10.90
15	480	2000	5332	4943	6.32	6.04	1883	222	124	.75	-.72	10.43
15	520	2000	5515	5140	6.08	5.77	1873	226	110	.67	-.65	10.00
15	560	2000	5679	5316	5.85	5.52	1863	229	99	.61	-.59	9.60
15	360	2500	5511	4911	8.40	8.19	2412	212	210	1.18	-1.13	14.00
15	400	2500	5810	5245	8.08	7.85	2402	223	184	1.02	-.98	13.45
15	440	2500	6085	5548	7.78	7.53	2392	232	163	.89	-.86	12.92
15	480	2500	6338	5824	7.49	7.23	2383	240	145	.79	-.76	12.42
15	520	2500	6570	6075	7.22	6.94	2373	246	130	.71	-.68	11.95
15	560	2500	6780	6303	6.97	6.67	2363	252	117	.64	-.62	11.52
15	360	3000	6307	5548	9.53	9.34	2912	221	235	1.23	-1.18	15.92
15	400	3000	6656	5942	9.20	8.98	2902	234	207	1.06	-1.02	15.34
15	440	3000	6981	6303	8.88	8.65	2892	245	183	.93	-.90	14.79
15	480	3000	7282	6635	8.58	8.33	2883	255	164	.82	-.80	14.27
15	520	3000	7560	6940	8.29	8.02	2873	263	147	.74	-.71	13.77
15	560	3000	7815	7216	8.03	7.74	2863	270	133	.67	-.65	13.31
15	440	4000	8645	7664	10.88	10.67	3892	264	220	.99	-.96	18.19
15	480	4000	9033	8099	10.55	10.33	3883	276	198	.88	-.85	17.62
15	520	4000	9398	8504	10.24	10.00	3873	287	179	.79	-.76	17.09
15	560	4000	9732	8872	9.96	9.71	3863	297	162	.71	-.69	16.60
15	480	5000	10653	9407	12.34	12.13	4883	292	227	.93	-.90	20.65
15	520	5000	11094	9904	12.01	11.79	4873	305	206	.83	-.80	20.09
15	560	5000	11500	10356	11.72	11.49	4863	318	189	.75	-.73	19.59
25	360	1300	2555	2199	3.97	3.59	1156	107	100	1.31	-1.25	6.38
25	400	1300	2621	2276	3.70	3.30	1140	105	85	1.15	-1.11	5.91
25	440	1300	2677	2340	3.46	3.04	1124	103	73	1.02	-.99	5.49
25	480	1300	2724	2394	3.25	2.81	1108	101	63	.92	-.89	5.12
25	520	1300	2764	2439	3.05	2.61	1092	98	55	.83	-.81	4.78
25	560	1300	2797	2477	2.88	2.42	1076	95	49	.76	-.74	4.48
25	360	1400	2725	2338	4.22	3.86	1256	111	105	1.32	-1.27	6.82
25	400	1400	2799	2423	3.94	3.55	1240	110	90	1.16	-1.12	6.33
25	440	1400	2861	2495	3.69	3.28	1224	108	77	1.03	-1.00	5.89
25	480	1400	2913	2554	3.47	3.04	1208	106	67	.93	-.90	5.49
25	520	1400	2957	2605	3.27	2.82	1192	103	59	.84	-.82	5.14
25	560	1400	2995	2647	3.09	2.63	1176	100	52	.77	-.75	4.83
25	360	1500	2893	2474	4.47	4.11	1356	115	111	1.34	-1.28	7.25
25	400	1500	2974	2568	4.18	3.80	1340	114	94	1.17	-1.13	6.74
25	440	1500	3042	2646	3.92	3.52	1324	113	81	1.04	-1.01	6.28
25	480	1500	3100	2712	3.69	3.26	1308	111	71	.94	-.91	5.87
25	520	1500	3149	2768	3.47	3.04	1292	108	62	.85	-.82	5.50
25	560	1500	3190	2816	3.29	2.84	1276	105	55	.78	-.76	5.17
25	360	2000	3701	3115	5.66	5.33	1856	132	136	1.39	-1.33	9.28
25	400	2000	3817	3252	5.32	4.97	1840	133	117	1.22	-1.18	8.69
25	440	2000	3917	3368	5.01	4.64	1824	133	101	1.09	-1.05	8.15
25	480	2000	4003	3468	4.74	4.34	1808	132	88	.98	-.95	7.66
25	520	2000	4078	3554	4.48	4.07	1792	130	78	.89	-.86	7.22
25	560	2000	4142	3627	4.25	3.83	1776	128	69	.81	-.79	6.82

Table 6-11. (Sheet 48)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
25	360	2500	4468	3703	6.76	6.45	2356	146	159	1.43	-1.37	11.15
25	400	2500	4618	3883	6.38	6.05	2340	148	137	1.26	-1.21	10.50
25	440	2500	4750	4039	6.04	5.69	2324	149	119	1.12	-1.08	9.90
25	480	2500	4865	4174	5.72	5.35	2308	149	105	1.01	-.98	9.35
25	520	2500	4966	4291	5.43	5.04	2292	148	92	.91	-.89	8.84
25	560	2500	5054	4392	5.17	4.77	2276	147	82	.84	-.81	8.39
25	360	3000	5202	4249	7.79	7.50	2856	156	180	1.47	-1.41	12.90
25	400	3000	5386	4473	7.38	7.07	2840	160	156	1.29	-1.24	12.19
25	440	3000	5549	4668	7.01	6.67	2824	163	136	1.15	-1.11	11.54
25	480	3000	5693	4838	6.66	6.31	2808	164	120	1.03	-1.00	10.94
25	520	3000	5820	4988	6.34	5.97	2792	164	106	.94	-.91	10.39
25	560	3000	5932	5118	6.06	5.67	2776	163	95	.86	-.83	9.89
25	360	4000	6596	5245	9.67	9.41	3856	173	216	1.51	-1.46	16.11
25	400	4000	6843	5552	9.22	8.94	3840	179	189	1.34	-1.29	15.33
25	440	4000	7065	5824	8.80	8.50	3824	184	166	1.19	-1.15	14.60
25	480	4000	7266	6066	8.41	8.08	3808	187	148	1.07	-1.04	13.92
25	520	4000	7447	6281	8.04	7.70	3792	189	132	.98	-.95	13.28
25	560	4000	7606	6469	7.72	7.36	3776	190	118	.89	-.87	12.72
25	360	5000	7919	6141	11.39	11.15	4856	185	248	1.55	-1.49	19.02
25	400	5000	8223	6528	10.90	10.64	4840	194	218	1.37	-1.32	18.18
25	440	5000	8501	6875	10.45	10.17	4824	200	193	1.23	-1.19	17.39
25	480	5000	8755	7186	10.02	9.72	4808	205	172	1.11	-1.07	16.65
25	520	5000	8986	7467	9.62	9.30	4792	209	154	1.01	-.98	15.97
25	560	5000	9191	7712	9.27	8.93	4776	212	140	.92	-.90	15.36
25	400	6000	9546	7425	12.46	12.22	5840	205	244	1.40	-1.35	20.83
25	440	6000	9875	7844	11.98	11.72	5824	213	217	1.25	-1.21	19.99
25	480	6000	10179	8223	11.52	11.24	5808	219	195	1.13	-1.10	19.21
25	520	6000	10459	8566	11.10	10.80	5792	225	175	1.03	-1.00	18.48
25	560	6000	10706	8867	10.74	10.41	5776	230	159	.95	-.92	17.85
30	360	1700	2898	2347	4.46	4.08	1530	99	105	1.50	-1.44	7.21
30	400	1700	2962	2426	4.15	3.75	1511	97	90	1.32	-1.28	6.67
30	440	1700	3017	2492	3.88	3.45	1492	95	77	1.18	-1.14	6.19
30	480	1700	3062	2547	3.63	3.19	1473	92	67	1.07	-1.04	5.76
30	520	1700	3100	2592	3.42	2.96	1454	90	59	.97	-.94	5.39
30	560	1700	3132	2631	3.22	2.76	1435	87	52	.89	-.87	5.05
30	360	1800	3049	2461	4.68	4.30	1630	102	110	1.51	-1.45	7.59
30	400	1800	3119	2547	4.36	3.96	1611	100	94	1.33	-1.28	7.03
30	440	1800	3178	2619	4.08	3.66	1592	98	80	1.19	-1.15	6.53
30	480	1800	3227	2678	3.83	3.39	1573	96	70	1.08	-1.04	6.09
30	520	1800	3269	2728	3.60	3.15	1554	93	61	.98	-.95	5.70
30	560	1800	3304	2771	3.40	2.93	1535	91	54	.90	-.87	5.35
30	360	1900	3199	2573	4.90	4.53	1730	105	114	1.52	-1.46	7.96
30	400	1900	3274	2666	4.57	4.18	1711	104	97	1.34	-1.29	7.38
30	440	1900	3337	2744	4.28	3.86	1692	102	84	1.20	-1.16	6.87
30	480	1900	3391	2808	4.01	3.58	1673	100	73	1.08	-1.05	6.41
30	520	1900	3436	2863	3.78	3.33	1654	97	64	.99	-.96	6.00
30	560	1900	3474	2909	3.57	3.11	1635	94	57	.90	-.88	5.64
30	360	2000	3347	2684	5.12	4.75	1830	108	119	1.52	-1.46	8.33
30	400	2000	3428	2784	4.78	4.39	1811	107	101	1.35	-1.30	7.73
30	440	2000	3496	2867	4.47	4.06	1792	105	87	1.21	-1.17	7.21
30	480	2000	3553	2937	4.20	3.77	1773	103	76	1.09	-1.06	6.73
30	520	2000	3602	2996	3.96	3.52	1754	100	67	.99	-.96	6.31
30	560	2000	3644	3046	3.74	3.29	1735	98	59	.91	-.89	5.93

Table 6-11. (Sheet 49)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
30	360	2500	4072	3214	6.15	5.81	2330	120	139	1.56	-1.50	10.09
30	400	2500	4179	3349	5.77	5.40	2311	121	119	1.38	-1.33	9.43
30	440	2500	4271	3462	5.42	5.03	2292	120	103	1.24	-1.19	8.83
30	480	2500	4349	3559	5.11	4.70	2273	118	90	1.12	-1.08	8.29
30	520	2500	4417	3641	4.83	4.41	2254	116	79	1.02	-.99	7.80
30	560	2500	4475	3712	4.58	4.14	2235	114	70	.94	-.91	7.36
30	360	3000	4772	3711	7.13	6.80	2830	131	158	1.58	-1.52	11.75
30	400	3000	4905	3880	6.71	6.36	2811	132	136	1.40	-1.36	11.03
30	440	3000	5020	4025	6.33	5.96	2792	132	118	1.26	-1.22	10.37
30	480	3000	5120	4150	5.98	5.59	2773	131	104	1.14	-1.10	9.77
30	520	3000	5208	4257	5.67	5.26	2754	130	91	1.04	-1.01	9.22
30	560	3000	5283	4349	5.38	4.96	2735	128	81	.95	-.93	8.73
30	360	3500	5451	4179	8.05	7.74	3330	140	175	1.60	-1.55	13.33
30	400	3500	5609	4383	7.60	7.27	3311	142	151	1.43	-1.38	12.55
30	440	3500	5748	4560	7.19	6.84	3292	143	132	1.28	-1.24	11.84
30	480	3500	5870	4713	6.81	6.44	3273	143	116	1.16	-1.12	11.19
30	520	3500	5978	4846	6.47	6.08	3254	142	103	1.06	-1.03	10.59
30	560	3500	6071	4960	6.17	5.76	3235	141	92	.97	-.95	10.06
30	360	4000	6113	4623	8.93	8.63	3830	147	191	1.62	-1.56	14.82
30	400	4000	6296	4862	8.46	8.14	3811	151	166	1.44	-1.39	14.00
30	440	4000	6458	5070	8.02	7.68	3792	153	145	1.29	-1.25	13.25
30	480	4000	6602	5252	7.62	7.26	3773	153	128	1.17	-1.14	12.55
30	520	4000	6729	5411	7.25	6.87	3754	153	114	1.07	-1.04	11.91
30	560	4000	6840	5548	6.92	6.52	3735	153	102	.99	-.96	11.35
30	360	4500	6761	5046	9.77	9.49	4330	154	206	1.63	-1.58	16.26
30	400	4500	6967	5319	9.28	8.97	4311	158	180	1.46	-1.41	15.40
30	440	4500	7152	5559	8.82	8.49	4292	161	158	1.31	-1.27	14.60
30	480	4500	7317	5770	8.39	8.04	4273	162	140	1.19	-1.15	13.87
30	520	4500	7464	5955	8.00	7.63	4254	163	124	1.08	-1.05	13.19
30	560	4500	7593	6116	7.66	7.27	4235	163	112	1.00	-.97	12.60
30	360	5000	7396	5450	10.58	10.31	4830	160	220	1.64	-1.59	17.63
30	400	5000	7626	5758	10.07	9.77	4811	165	192	1.47	-1.42	16.74
30	440	5000	7833	6029	9.59	9.27	4792	168	170	1.32	-1.28	15.91
30	480	5000	8019	6269	9.14	8.80	4773	171	150	1.20	-1.16	15.14
30	520	5000	8185	6481	8.73	8.37	4754	172	134	1.09	-1.06	14.44
30	560	5000	8331	6664	8.37	8.00	4735	173	121	1.01	-.98	13.82
30	360	6000	8637	6213	12.12	11.87	5830	170	245	1.66	-1.60	20.24
30	400	6000	8910	6587	11.57	11.29	5811	176	216	1.48	-1.44	19.29
30	440	6000	9159	6920	11.05	10.76	5792	181	191	1.34	-1.30	18.41
30	480	6000	9385	7217	10.57	10.26	5773	185	171	1.22	-1.18	17.58
30	520	6000	9590	7481	10.13	9.80	5754	187	153	1.11	-1.08	16.82
30	560	6000	9769	7709	9.76	9.40	5735	190	138	1.03	-1.00	16.17
30	400	7000	10158	7361	12.98	12.72	6811	186	237	1.50	-1.45	21.69
30	440	7000	10446	7754	12.44	12.16	6792	192	211	1.35	-1.31	20.76
30	480	7000	10711	8107	11.93	11.63	6773	197	189	1.23	-1.20	19.89
30	520	7000	10952	8422	11.47	11.15	6754	201	170	1.13	-1.10	19.09
30	560	7000	11162	8695	11.08	10.74	6735	205	155	1.05	-1.02	18.41
30	440	8000	11702	8541	13.76	13.49	7792	201	230	1.36	-1.33	22.99
30	480	8000	12003	8949	13.23	12.94	7773	207	206	1.24	-1.21	22.08
30	520	8000	12278	9314	12.75	12.44	7754	212	187	1.14	-1.12	21.26
30	560	8000	12518	9628	12.36	12.03	7735	218	170	1.07	-1.04	20.58

Table 6-11. (Sheet 50)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS FT/KNOTS
45	360	2300	3004	1932	4.55	4.13	2059	65	89	1.91	-1.85	7.33
45	400	2300	3038	1984	4.21	3.76	2033	63	75	1.71	-1.66	6.73
45	440	2300	3066	2027	3.90	3.44	2006	61	65	1.55	-1.51	6.20
45	480	2300	3089	2062	3.64	3.17	1979	59	56	1.41	-1.37	5.75
45	520	2300	3108	2091	3.41	2.92	1952	56	49	1.29	-1.26	5.34
45	560	2300	3124	2115	3.20	2.70	1926	54	44	1.19	-1.17	4.99
45	360	2400	3127	2004	4.73	4.31	2159	67	92	1.91	-1.85	7.62
45	400	2400	3163	2061	4.37	3.93	2133	65	78	1.71	-1.66	7.01
45	440	2400	3193	2106	4.06	3.60	2106	63	67	1.55	-1.51	6.47
45	480	2400	3218	2143	3.79	3.31	2079	60	58	1.41	-1.38	5.99
45	520	2400	3238	2174	3.54	3.06	2052	58	51	1.30	-1.27	5.58
45	560	2400	3256	2200	3.33	2.84	2026	56	45	1.20	-1.17	5.21
45	360	2500	3250	2076	4.90	4.48	2259	69	94	1.91	-1.85	7.92
45	400	2500	3288	2136	4.53	4.10	2233	67	80	1.72	-1.67	7.28
45	440	2500	3320	2184	4.21	3.76	2206	64	69	1.55	-1.51	6.73
45	480	2500	3346	2224	3.93	3.46	2179	62	60	1.42	-1.38	6.24
45	520	2500	3368	2257	3.68	3.20	2152	60	53	1.30	-1.27	5.81
45	560	2500	3387	2285	3.46	2.97	2126	58	47	1.20	-1.18	5.43
45	360	3000	3858	2425	5.74	5.34	2759	76	107	1.92	-1.86	9.35
45	400	3000	3907	2504	5.33	4.91	2733	75	91	1.73	-1.68	8.64
45	440	3000	3949	2568	4.97	4.53	2706	73	79	1.57	-1.53	8.01
45	480	3000	3984	2621	4.64	4.19	2679	71	69	1.43	-1.40	7.46
45	520	3000	4013	2665	4.36	3.89	2652	68	60	1.32	-1.29	6.96
45	560	3000	4037	2702	4.11	3.63	2626	66	54	1.22	-1.19	6.53
45	360	3500	4457	2760	6.55	6.16	3259	83	119	1.92	-1.87	10.73
45	400	3500	4518	2857	6.10	5.69	3233	82	102	1.74	-1.69	9.95
45	440	3500	4569	2937	5.70	5.27	3206	80	88	1.58	-1.54	9.25
45	480	3500	4613	3005	5.34	4.90	3179	78	77	1.44	-1.41	8.64
45	520	3500	4650	3061	5.02	4.56	3152	76	68	1.33	-1.30	8.09
45	560	3500	4681	3108	4.74	4.27	3126	74	60	1.23	-1.21	7.61
45	360	4000	5049	3080	7.33	6.96	3759	89	130	1.93	-1.87	12.06
45	400	4000	5121	3197	6.84	6.45	3733	89	112	1.74	-1.69	11.21
45	440	4000	5182	3295	6.40	5.99	3706	87	98	1.58	-1.54	10.46
45	480	4000	5235	3377	6.01	5.58	3679	85	85	1.45	-1.42	9.79
45	520	4000	5280	3446	5.67	5.22	3652	83	75	1.34	-1.31	9.19
45	560	4000	5318	3504	5.36	4.90	3626	82	67	1.24	-1.22	8.66
45	360	4500	5633	3389	8.08	7.72	4259	95	141	1.92	-1.87	13.34
45	400	4500	5717	3526	7.56	7.18	4233	95	122	1.74	-1.69	12.44
45	440	4500	5789	3641	7.09	6.69	4206	94	106	1.59	-1.55	11.63
45	480	4500	5850	3738	6.67	6.25	4179	92	93	1.46	-1.42	10.91
45	520	4500	5903	3821	6.30	5.86	4152	90	82	1.34	-1.31	10.26
45	560	4500	5949	3891	5.97	5.52	4126	89	73	1.25	-1.22	9.70
45	360	5000	6212	3687	8.81	8.46	4759	100	151	1.92	-1.87	14.58
45	400	5000	6307	3844	8.26	7.89	4733	100	131	1.74	-1.69	13.63
45	440	5000	6389	3977	7.77	7.37	4706	99	114	1.59	-1.55	12.78
45	480	5000	6460	4090	7.32	6.91	4679	98	101	1.46	-1.42	12.01
45	520	5000	6521	4187	6.92	6.49	4652	97	89	1.35	-1.32	11.31
45	560	5000	6574	4268	6.57	6.12	4626	95	80	1.26	-1.23	10.71
45	360	6000	7355	4254	10.21	9.88	5759	108	170	1.91	-1.86	16.95
45	400	6000	7471	4452	9.61	9.25	5733	109	148	1.74	-1.69	15.92
45	440	6000	7573	4621	9.06	8.69	5706	110	130	1.59	-1.55	14.98
45	480	6000	7663	4767	8.57	8.17	5679	109	115	1.46	-1.43	14.13
45	520	6000	7742	4892	8.12	7.71	5652	108	102	1.35	-1.33	13.36
45	560	6000	7809	4997	7.74	7.31	5626	107	92	1.27	-1.24	12.70

Table 6-11. (Sheet 51)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
45	360	7000	8481	4788	11.53	11.22	6759	116	186	1.90	-1.85	19.20
45	400	7000	8618	5027	10.89	10.55	6733	118	163	1.73	-1.69	18.10
45	440	7000	8740	5233	10.30	9.94	6706	118	144	1.59	-1.55	17.08
45	480	7000	8848	5412	9.77	9.39	6679	119	128	1.46	-1.43	16.16
45	520	7000	8943	5566	9.29	8.89	6652	118	114	1.36	-1.33	15.34
45	560	7000	9025	5696	8.88	8.46	6626	118	103	1.27	-1.25	14.64
45	360	8000	9593	5295	12.80	12.50	7759	122	201	1.88	-1.84	21.35
45	400	8000	9750	5574	12.12	11.79	7733	125	178	1.72	-1.68	20.18
45	440	8000	9891	5817	11.49	11.15	7706	126	157	1.58	-1.55	19.10
45	480	8000	10017	6029	10.92	10.55	7679	127	140	1.46	-1.43	18.12
45	520	8000	10129	6213	10.42	10.03	7652	127	126	1.36	-1.33	17.26
45	560	8000	10224	6367	10.00	9.58	7626	128	114	1.28	-1.25	16.52
45	360	9000	10695	5777	14.01	13.72	8759	127	215	1.87	-1.82	23.40
45	400	9000	10870	6096	13.29	12.98	8733	131	191	1.71	-1.67	22.18
45	440	9000	11029	6376	12.64	12.31	8706	133	170	1.58	-1.54	21.05
45	480	9000	11173	6621	12.04	11.69	8679	135	152	1.46	-1.43	20.03
45	520	9000	11300	6834	11.52	11.14	8652	136	137	1.36	-1.34	19.12
45	560	9000	11409	7012	11.08	10.68	8626	137	124	1.28	-1.26	18.37
45	360	10000	11786	6238	15.17	14.89	9759	132	228	1.85	-1.81	25.37
45	400	10000	11980	6597	14.43	14.13	9733	136	203	1.70	-1.66	24.10
45	440	10000	12157	6912	13.75	13.43	9706	139	181	1.57	-1.54	22.93
45	480	10000	12317	7190	13.13	12.79	9679	142	163	1.46	-1.43	21.87
45	520	10000	12459	7431	12.60	12.22	9652	144	147	1.36	-1.34	20.95
45	560	10000	12580	7633	12.15	11.75	9626	146	134	1.29	-1.26	20.17
60	360	3000	3338	1465	4.96	4.52	2705	44	71	2.19	-2.14	8.01
60	400	3000	3355	1503	4.57	4.12	2673	42	61	1.98	-1.94	7.34
60	440	3000	3369	1534	4.24	3.76	2640	41	53	1.81	-1.78	6.75
60	480	3000	3381	1559	3.94	3.46	2607	39	46	1.66	-1.63	6.25
60	520	3000	3391	1580	3.68	3.19	2574	37	41	1.53	-1.51	5.80
60	560	3000	3398	1597	3.46	2.95	2542	36	36	1.42	-1.40	5.41
60	360	4000	4420	1879	6.40	5.99	3705	52	86	2.17	-2.13	10.45
60	400	4000	4445	1938	5.93	5.49	3673	51	74	1.98	-1.94	9.64
60	440	4000	4466	1986	5.51	5.06	3640	49	64	1.81	-1.78	8.92
60	480	4000	4484	2026	5.15	4.68	3607	48	56	1.67	-1.64	8.29
60	520	4000	4499	2059	4.82	4.34	3574	46	49	1.55	-1.52	7.74
60	560	4000	4511	2086	4.54	4.05	3542	45	44	1.44	-1.42	7.25
60	360	5000	5491	2268	7.76	7.36	4705	59	99	2.14	-2.10	12.76
60	400	5000	5524	2349	7.21	6.80	4673	58	85	1.96	-1.92	11.83
60	440	5000	5553	2416	6.73	6.30	4640	57	74	1.80	-1.77	11.00
60	480	5000	5578	2472	6.30	5.85	4607	55	65	1.67	-1.64	10.26
60	520	5000	5599	2519	5.93	5.46	4574	54	58	1.55	-1.52	9.61
60	560	5000	5616	2557	5.60	5.12	4542	52	52	1.45	-1.43	9.05
60	360	6000	6554	2636	9.05	8.67	5705	65	111	2.11	-2.07	14.96
60	400	6000	6596	2740	8.45	8.05	5673	64	96	1.94	-1.91	13.92
60	440	6000	6633	2827	7.91	7.49	5640	63	84	1.79	-1.76	12.99
60	480	6000	6664	2900	7.42	6.99	5607	62	74	1.66	-1.63	12.16
60	520	6000	6691	2961	7.00	6.55	5574	61	66	1.55	-1.52	11.43
60	560	6000	6714	3012	6.64	6.17	5542	60	59	1.45	-1.43	10.80
60	360	7000	7610	2985	10.28	9.93	6705	70	121	2.08	-2.05	17.05
60	400	7000	7661	3113	9.63	9.25	6673	70	106	1.92	-1.89	15.93
60	440	7000	7705	3220	9.04	8.63	6640	69	93	1.78	-1.75	14.92
60	480	7000	7744	3311	8.51	8.09	6607	68	83	1.65	-1.62	14.01
60	520	7000	7777	3388	8.04	7.60	6574	67	74	1.54	-1.52	13.20
60	560	7000	7805	3452	7.65	7.19	6542	66	66	1.45	-1.43	12.53

Table 6-11. (Sheet 52)

RIPPLE RELEASE TABLES
FOR
MK-82 500 -LB GP BOMB

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
60	360	8000	8661	3318	11.47	11.12	7705	74	131	2.05	-2.02	19.07
60	400	8000	8720	3470	10.77	10.40	7673	75	115	1.90	-1.87	17.86
60	440	8000	8772	3598	10.13	9.74	7640	74	102	1.76	-1.73	16.77
60	480	8000	8817	3708	9.56	9.15	7607	74	90	1.64	-1.62	15.80
60	520	8000	8857	3801	9.07	8.63	7574	73	81	1.54	-1.51	14.94
60	560	8000	8890	3878	8.65	8.19	7542	73	73	1.45	-1.43	14.22
60	360	9000	9707	3638	12.61	12.28	8705	78	140	2.02	-1.99	21.00
60	400	9000	9774	3812	11.87	11.51	8673	79	124	1.88	-1.85	19.73
60	440	9000	9834	3962	11.19	10.82	8640	79	110	1.74	-1.72	18.57
60	480	9000	9886	4090	10.59	10.19	8607	79	98	1.63	-1.61	17.54
60	520	9000	9932	4200	10.07	9.64	8574	79	88	1.53	-1.51	16.64
60	560	9000	9970	4290	9.63	9.18	8542	78	79	1.45	-1.43	15.88
60	360	10000	10750	3944	13.71	13.39	9705	81	148	2.00	-1.97	22.87
60	400	10000	10824	4143	12.93	12.59	9673	83	131	1.85	-1.83	21.54
60	440	10000	10891	4314	12.23	11.86	9640	83	117	1.73	-1.70	20.33
60	480	10000	10950	4461	11.60	11.21	9607	84	105	1.62	-1.60	19.25
60	520	10000	11002	4586	11.05	10.64	9574	84	94	1.52	-1.50	18.31
60	560	10000	11045	4690	10.60	10.16	9542	84	86	1.45	-1.43	17.52
60	360	11000	11789	4240	14.78	14.47	10705	85	156	1.97	-1.94	24.68
60	400	11000	11870	4462	13.97	13.63	10673	86	139	1.83	-1.81	23.29
60	440	11000	11944	4654	13.24	12.88	10640	87	124	1.71	-1.69	22.04
60	480	11000	12010	4820	12.59	12.20	10607	88	111	1.61	-1.59	20.92
60	520	11000	12067	4961	12.02	11.61	10574	88	100	1.52	-1.50	19.95
60	560	11000	12116	5079	11.56	11.12	10542	89	92	1.44	-1.43	19.14
60	360	12000	12825	4525	15.81	15.51	11705	87	163	1.94	-1.92	26.43
60	400	12000	12913	4770	14.98	14.65	11673	90	146	1.81	-1.79	25.00
60	440	12000	12994	4984	14.22	13.87	11640	91	130	1.70	-1.67	23.71
60	480	12000	13066	5168	13.56	13.18	11607	92	117	1.60	-1.58	22.56
60	520	12000	13129	5326	12.98	12.57	11574	93	106	1.51	-1.49	21.57
60	560	12000	13182	5456	12.50	12.07	11542	94	97	1.44	-1.42	20.74

Table 6-12. (Sheet 1)

LEVEL BOMBING TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CROSS CRAB FT/KNOT
0	100	360	1170	2.44	1174	11	90	.33	-.31	4.1	.9
		400	1284	2.46	1288	10	82	.28	-.26	4.2	.9
		440	1395	2.49	1398	9	76	.24	-.22	4.2	1.0
		480	1503	2.51	1506	9	70	.20	-.19	4.2	1.1
		520	1608	2.53	1611	8	66	.18	-.17	4.3	1.2
		560	1711	2.56	1714	8	62	.16	-.15	4.3	1.3
0	125	360	1293	2.80	1299	12	101	.38	-.36	4.7	1.1
		400	1416	2.83	1421	12	92	.32	-.30	4.8	1.2
		440	1534	2.86	1539	11	85	.28	-.26	4.8	1.3
		480	1650	2.89	1654	11	79	.24	-.23	4.9	1.4
		520	1762	2.91	1766	10	74	.21	-.20	4.9	1.5
		560	1871	2.94	1875	10	70	.19	-.18	5.0	1.6
0	150	360	1398	3.12	1406	14	111	.44	-.40	5.3	1.4
		400	1528	3.16	1536	13	102	.37	-.34	5.3	1.5
		440	1653	3.20	1660	13	94	.32	-.30	5.4	1.6
		480	1774	3.23	1780	12	88	.28	-.26	5.4	1.8
		520	1891	3.26	1897	12	82	.25	-.23	5.5	1.9
		560	2005	3.29	2011	11	78	.22	-.21	5.6	2.0
0	175	360	1492	3.43	1502	16	121	.49	-.45	5.8	1.7
		400	1627	3.47	1636	15	111	.41	-.39	5.9	1.8
		440	1757	3.51	1765	14	103	.36	-.34	5.9	1.9
		480	1882	3.55	1890	14	96	.31	-.30	6.0	2.1
		520	2004	3.58	2011	13	90	.28	-.26	6.0	2.2
		560	2121	3.62	2128	13	85	.25	-.24	6.1	2.3
0	200	360	1575	3.72	1587	18	130	.54	-.50	6.3	1.9
		400	1714	3.77	1726	17	120	.46	-.43	6.4	2.1
		440	1849	3.81	1859	16	111	.40	-.37	6.4	2.2
		480	1978	3.85	1988	15	104	.35	-.33	6.5	2.4
		520	2103	3.88	2112	15	98	.31	-.30	6.6	2.5
		560	2223	3.92	2232	15	92	.28	-.27	6.6	2.6
0	225	360	1650	4.00	1665	19	139	.59	-.54	6.7	2.2
		400	1793	4.04	1808	18	128	.50	-.47	6.8	2.3
		440	1931	4.09	1944	18	119	.44	-.41	6.9	2.5
		480	2064	4.13	2076	17	112	.39	-.36	7.0	2.7
		520	2192	4.17	2203	17	105	.35	-.33	7.0	2.8
		560	2315	4.21	2325	16	99	.31	-.30	7.1	3.0
0	250	360	1718	4.26	1736	21	148	.64	-.59	7.2	2.4
		400	1866	4.31	1882	20	137	.55	-.51	7.3	2.6
		440	2007	4.35	2022	19	127	.48	-.45	7.3	2.8
		480	2142	4.40	2157	19	119	.43	-.40	7.4	3.0
		520	2272	4.44	2286	18	112	.38	-.36	7.5	3.1
		560	2397	4.48	2410	18	106	.35	-.32	7.6	3.3
0	275	360	1781	4.50	1802	22	157	.69	-.64	7.6	2.7
		400	1932	4.56	1951	22	145	.59	-.55	7.7	2.9
		440	2076	4.61	2094	21	135	.52	-.48	7.8	3.1
		480	2213	4.66	2230	20	126	.46	-.43	7.9	3.2
		520	2346	4.70	2362	20	119	.42	-.39	7.9	3.4
		560	2473	4.74	2488	19	113	.38	-.35	8.0	3.6
0	300	360	1840	4.74	1864	24	165	.74	-.68	8.0	2.9
		400	1993	4.80	2016	23	153	.64	-.59	8.1	3.1
		440	2139	4.85	2160	22	142	.56	-.52	8.2	3.3
		480	2279	4.90	2299	22	134	.50	-.47	8.3	3.5
		520	2413	4.95	2432	21	126	.45	-.42	8.4	3.7
		560	2542	4.99	2560	21	120	.41	-.38	8.4	3.9
0	400	360	2040	5.62	2079	30	197	.94	-.86	9.5	3.8
		400	2201	5.69	2237	29	183	.82	-.75	9.6	4.1
		440	2355	5.75	2389	28	171	.72	-.67	9.7	4.4
		480	2502	5.81	2533	27	161	.65	-.60	9.8	4.6
		520	2641	5.86	2672	27	153	.59	-.55	9.9	4.8
		560	2775	5.91	2804	26	145	.54	-.50	10.0	5.0

Table 6-12. (Sheet 2)

LEVEL BOMBING TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS DRIFT	CRAB
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KNOT	
0	500	360	2199	6.41	2255	35	227	1.14	-1.03	10.8	4.7
		400	2368	6.48	2420	34	211	1.00	-.91	10.9	5.0
		440	2527	6.55	2576	33	198	.89	-.81	11.1	5.3
		480	2678	6.62	2725	32	187	.80	-.74	11.2	5.6
		520	2822	6.66	2866	32	178	.73	-.67	11.3	5.8
		560	2959	6.73	3001	32	170	.67	-.62	11.4	6.1
0	600	400	2536	7.21	2577	39	238	1.17	-1.07	12.2	5.9
		440	2670	7.29	2737	38	224	1.05	-.96	12.3	6.2
		480	2825	7.36	2888	37	212	.95	-.87	12.4	6.5
		520	2972	7.42	3032	37	202	.86	-.80	12.5	6.8
		560	3112	7.48	3169	36	193	.80	-.74	12.6	7.1
0	700	480	2950	8.05	3032	41	235	1.10	-1.00	13.6	7.4
		520	3100	8.11	3178	41	224	1.00	-.92	13.7	7.7
		560	3242	8.17	3316	41	215	.93	-.85	13.8	8.0

Table 6-12. (Sheet 3)

DIVE BOMBING TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS		
								HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT	MILS/KNOT	FT/KT
10	400	360	1390	3.19	1446	24	110	1.09	-1.02	5.4
		400	1464	3.06	1517	22	96	.95	-.89	5.2
		440	1530	2.93	1582	21	85	.83	-.78	4.9
		480	1590	2.81	1639	20	76	.74	-.70	4.7
		520	1643	2.69	1691	19	68	.67	-.63	4.5
		560	1691	2.58	1738	18	61	.60	-.57	4.4
10	500	360	1597	3.93	1674	28	133	1.25	-1.16	6.6
		400	1688	3.80	1760	26	117	1.09	-1.02	6.4
		440	1770	3.67	1839	25	104	.96	-.90	6.2
		480	1845	3.54	1912	23	93	.86	-.81	6.0
		520	1913	3.42	1978	22	84	.77	-.73	5.8
		560	1976	3.31	2038	21	76	.70	-.67	5.6
10	600	360	1773	4.63	1872	32	155	1.42	-1.31	7.8
		400	1878	4.50	1971	30	138	1.24	-1.15	7.6
		440	1973	4.38	2062	28	124	1.10	-1.02	7.4
		480	2061	4.26	2147	27	112	.98	-.92	7.2
		520	2142	4.14	2224	26	101	.89	-.83	7.0
		560	2217	4.03	2296	24	92	.81	-.76	6.8
10	700	360	1924	5.30	2048	36	178	1.58	-1.45	8.9
		400	2040	5.18	2157	34	159	1.39	-1.28	8.7
		440	2147	5.07	2258	32	144	1.23	-1.15	8.5
		480	2245	4.95	2352	30	130	1.11	-1.04	8.4
		520	2337	4.84	2439	29	119	1.01	-.94	8.2
		560	2422	4.73	2521	28	109	.92	-.86	8.0
10	800	360	2057	5.94	2207	39	200	1.74	-1.60	10.0
		400	2182	5.83	2324	37	180	1.54	-1.42	9.8
		440	2298	5.72	2433	36	163	1.37	-1.27	9.7
		480	2405	5.61	2535	34	149	1.24	-1.15	9.5
		520	2505	5.51	2630	33	137	1.13	-1.05	9.3
		560	2598	5.40	2719	32	126	1.03	-.97	9.1
10	900	360	2174	6.56	2353	43	221	1.90	-1.75	11.1
		400	2307	6.46	2476	41	200	1.69	-1.55	10.9
		440	2430	6.35	2591	39	183	1.51	-1.40	10.7
		480	2545	6.25	2699	38	168	1.37	-1.27	10.6
		520	2652	6.15	2800	36	155	1.25	-1.16	10.4
		560	2752	6.05	2895	35	144	1.15	-1.07	10.2
10	1000	360	2278	7.15	2488	46	242	2.06	-1.89	12.1
		400	2418	7.06	2617	44	220	1.83	-1.69	11.9
		440	2548	6.96	2737	43	202	1.65	-1.52	11.8
		480	2668	6.87	2850	41	186	1.50	-1.39	11.6
		520	2782	6.77	2956	40	173	1.37	-1.27	11.4
		560	2888	6.68	3056	39	161	1.26	-1.18	11.3
10	1100	360	2372	7.73	2614	49	263	2.22	-2.03	13.0
		400	2518	7.64	2747	47	240	1.98	-1.82	12.9
		440	2653	7.55	2872	46	221	1.79	-1.65	12.7
		480	2779	7.46	2989	44	205	1.63	-1.51	12.6
		520	2897	7.37	3099	43	191	1.49	-1.39	12.4
		560	3008	7.29	3203	42	178	1.38	-1.28	12.3
10	1200	400	2608	8.20	2871	50	259	2.13	-1.95	13.8
		440	2748	8.12	2999	49	240	1.93	-1.77	13.7
		480	2879	8.04	3119	47	223	1.76	-1.62	13.6
		520	3001	7.95	3232	46	208	1.62	-1.50	13.4
		560	3117	7.87	3340	45	195	1.50	-1.39	13.3
10	1300	400	2690	8.75	2988	53	278	2.27	-2.08	14.8
		440	2834	8.67	3118	51	258	2.06	-1.89	14.6
		480	2969	8.59	3241	50	240	1.89	-1.74	14.5
		520	3095	8.52	3357	49	225	1.74	-1.61	14.4
		560	3214	8.44	3467	48	212	1.61	-1.50	14.2
10	1400	440	2913	9.21	3232	54	276	2.19	-2.01	15.5
		480	3052	9.14	3357	53	258	2.01	-1.85	15.4
		520	3181	9.06	3476	52	242	1.86	-1.72	15.3
		560	3303	8.99	3588	51	228	1.73	-1.60	15.2

Table 6-12. (Sheet 4)

DIVE BOMBING TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
10	1500	520	3260	9.60	3588	54	259	1.98	-1.83	16.2
		560	3385	9.53	3702	53	245	1.85	-1.70	16.1
20	700	360	1415	3.54	1579	34	114	1.76	-1.65	6.0
		400	1472	3.33	1630	33	98	1.55	-1.46	5.6
		440	1521	3.14	1675	31	86	1.38	-1.30	5.3
20	800	360	1555	4.09	1748	37	130	1.90	-1.77	6.9
		400	1622	3.87	1808	35	113	1.67	-1.57	6.5
		440	1680	3.66	1861	33	98	1.49	-1.40	6.2
		480	1731	3.47	1907	32	87	1.34	-1.27	5.9
20	900	360	1681	4.63	1907	40	146	2.03	-1.89	7.8
		400	1758	4.41	1975	38	127	1.80	-1.68	7.4
		440	1826	4.20	2036	36	112	1.61	-1.51	7.1
		480	1886	4.00	2089	34	99	1.45	-1.37	6.7
		520	1939	3.81	2137	33	88	1.32	-1.25	6.4
20	1000	360	1797	5.17	2056	42	162	2.17	-2.01	8.7
		400	1883	4.95	2132	40	142	1.92	-1.79	8.3
		440	1959	4.73	2199	38	126	1.72	-1.61	8.0
		480	2027	4.53	2260	37	112	1.56	-1.47	7.6
		520	2088	4.33	2315	35	100	1.42	-1.34	7.3
		560	2143	4.15	2364	34	90	1.30	-1.23	7.0
20	1100	360	1902	5.71	2197	45	178	2.30	-2.14	9.6
		400	1996	5.48	2279	43	157	2.05	-1.91	9.2
		440	2081	5.26	2354	41	140	1.84	-1.72	8.9
		480	2156	5.06	2421	39	125	1.67	-1.57	8.5
		520	2225	4.86	2482	38	113	1.52	-1.44	8.2
		560	2286	4.67	2537	36	102	1.40	-1.32	7.9
20	1200	360	1998	6.23	2331	48	195	2.44	-2.26	10.5
		400	2100	6.01	2419	45	173	2.18	-2.02	10.1
		440	2192	5.79	2499	43	154	1.96	-1.83	9.8
		480	2275	5.58	2572	42	139	1.78	-1.67	9.4
		520	2350	5.38	2639	40	125	1.63	-1.53	9.1
		560	2418	5.19	2700	39	114	1.50	-1.41	8.8
20	1300	360	2087	6.75	2459	50	211	2.57	-2.38	11.4
		400	2196	6.53	2552	48	188	2.30	-2.14	11.0
		440	2294	6.31	2637	46	169	2.08	-1.94	10.7
		480	2384	6.10	2715	44	153	1.89	-1.77	10.3
		520	2465	5.91	2787	43	139	1.74	-1.63	10.0
		560	2539	5.72	2853	41	126	1.60	-1.51	9.6
20	1400	360	2169	7.26	2582	52	227	2.70	-2.49	12.3
		400	2284	7.04	2679	50	203	2.43	-2.25	11.9
		440	2388	6.83	2768	48	184	2.20	-2.05	11.5
		480	2484	6.62	2851	47	167	2.01	-1.88	11.2
		520	2571	6.42	2927	45	152	1.84	-1.73	10.8
		560	2651	6.23	2998	44	139	1.70	-1.60	10.5
20	1500	360	2245	7.76	2700	55	243	2.83	-2.61	13.1
		400	2365	7.55	2801	53	219	2.55	-2.36	12.7
		440	2475	7.34	2894	51	198	2.32	-2.15	12.4
		480	2576	7.13	2981	49	181	2.12	-1.98	12.0
		520	2668	6.94	3061	48	165	1.95	-1.83	11.7
		560	2753	6.75	3136	46	152	1.81	-1.70	11.4
20	1600	360	2315	8.26	2814	57	258	2.96	-2.72	13.9
		400	2441	8.04	2918	55	234	2.67	-2.47	13.6
		440	2556	7.84	3015	53	213	2.43	-2.26	13.2
		480	2661	7.64	3105	51	195	2.23	-2.08	12.9
		520	2758	7.45	3189	50	179	2.06	-1.92	12.6
		560	2848	7.26	3267	48	165	1.91	-1.79	12.3
20	1700	360	2380	8.75	2925	59	274	3.08	-2.84	14.8
		400	2511	8.54	3032	57	249	2.79	-2.58	14.4
		440	2630	8.33	3132	55	227	2.55	-2.36	14.1
		480	2740	8.14	3224	54	208	2.34	-2.18	13.7
		520	2841	7.95	3311	52	192	2.17	-2.02	13.4
		560	2936	7.76	3392	51	178	2.01	-1.88	13.1

Table 6-12. (Sheet 5)

DIVE BOMBING TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
20	1800	360	2441	9.23	3033	61	289	3.20	-2.95	15.6
		400	2576	9.02	3142	59	263	2.91	-2.69	15.2
		440	2699	8.82	3244	57	241	2.66	-2.47	14.9
		480	2813	8.62	3339	56	222	2.45	-2.28	14.6
		520	2919	8.44	3429	54	206	2.27	-2.12	14.2
		560	3017	8.26	3513	53	191	2.12	-1.98	13.9
20	1900	360	2497	9.70	3138	62	304	3.32	-3.05	16.4
		400	2637	9.50	3250	61	278	3.02	-2.79	16.0
		440	2764	9.30	3354	59	255	2.77	-2.57	15.7
		480	2882	9.11	3452	58	236	2.56	-2.38	15.4
		520	2991	8.93	3543	56	219	2.38	-2.21	15.1
		560	3092	8.75	3629	55	204	2.22	-2.07	14.8
20	2000	360	2551	10.17	3241	64	318	3.43	-3.15	17.2
		400	2693	9.97	3355	62	292	3.13	-2.89	16.8
		440	2824	9.78	3461	61	269	2.88	-2.67	16.5
		480	2945	9.59	3560	60	250	2.67	-2.47	16.2
		520	3058	9.41	3654	58	232	2.48	-2.31	15.9
		560	3162	9.23	3742	57	217	2.32	-2.16	15.6
30	1200	360	1559	4.73	1967	48	136	2.58	-2.42	8.0
		400	1619	4.45	2015	46	117	2.31	-2.17	7.5
30	1300	360	1646	5.19	2098	50	148	2.70	-2.53	8.8
		400	1713	4.89	2151	48	128	2.41	-2.27	8.3
		440	1771	4.62	2197	46	112	2.18	-2.06	7.8
30	1400	360	1729	5.65	2225	52	160	2.81	-2.63	9.5
		400	1802	5.34	2282	50	140	2.52	-2.37	9.0
		440	1866	5.06	2332	48	123	2.28	-2.15	8.5
30	1500	360	1806	6.11	2347	54	172	2.92	-2.73	10.3
		400	1885	5.80	2409	51	151	2.63	-2.47	9.8
		440	1955	5.51	2464	50	134	2.39	-2.25	9.3
		480	2016	5.24	2513	48	119	2.18	-2.06	8.8
30	1600	360	1878	6.56	2467	55	185	3.04	-2.84	11.1
		400	1963	6.25	2533	53	163	2.74	-2.57	10.6
		440	2038	5.96	2591	51	144	2.49	-2.34	10.1
		480	2105	5.68	2644	50	129	2.28	-2.15	9.6
30	1700	360	1946	7.02	2584	57	197	3.15	-2.94	11.8
		400	2036	6.71	2653	55	175	2.85	-2.66	11.3
		440	2117	6.41	2715	53	155	2.59	-2.44	10.8
		480	2188	6.13	2771	51	139	2.38	-2.24	10.3
		520	2252	5.87	2822	50	125	2.19	-2.07	9.9
30	1800	360	2009	7.47	2698	59	210	3.25	-3.03	12.6
		400	2105	7.16	2770	57	186	2.95	-2.76	12.1
		440	2190	6.86	2835	55	167	2.69	-2.53	11.6
		480	2267	6.58	2895	53	150	2.47	-2.33	11.1
		520	2336	6.31	2949	52	135	2.28	-2.16	10.7
30	1900	360	2069	7.93	2809	61	222	3.36	-3.13	13.4
		400	2170	7.61	2884	59	198	3.05	-2.86	12.8
		440	2260	7.31	2952	57	178	2.79	-2.62	12.3
		480	2341	7.03	3015	55	160	2.57	-2.42	11.9
		520	2414	6.76	3072	53	145	2.38	-2.24	11.4
		560	2480	6.50	3124	52	132	2.21	-2.09	11.0
30	2000	360	2125	8.37	2918	62	234	3.46	-3.22	14.1
		400	2230	8.06	2996	60	210	3.15	-2.95	13.6
		440	2325	7.76	3067	58	189	2.89	-2.71	13.1
		480	2410	7.48	3132	57	171	2.67	-2.51	12.6
		520	2488	7.21	3192	55	156	2.47	-2.33	12.2
		560	2558	6.95	3247	54	142	2.30	-2.17	11.7
30	2100	360	2178	8.82	3026	64	246	3.56	-3.32	14.9
		400	2288	8.51	3105	62	221	3.25	-3.04	14.4
		440	2386	8.21	3179	60	200	2.99	-2.80	13.9
		480	2476	7.92	3246	58	182	2.77	-2.60	13.4
		520	2557	7.65	3309	57	166	2.57	-2.42	12.9
		560	2631	7.39	3367	55	152	2.39	-2.26	12.5

Table 6-12. (Sheet 6)

DIVE BOMBING TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
30	2200	360	2228	9.27	3171	65	258	3.66	-3.41	15.6
		400	2341	8.95	3213	63	233	3.35	-3.13	15.1
		440	2444	8.65	3288	62	211	3.09	-2.89	14.6
		480	2537	8.37	3358	60	193	2.86	-2.68	14.1
		520	2622	8.10	3423	58	176	2.66	-2.50	13.7
		560	2700	7.84	3483	57	162	2.48	-2.34	13.2
30	2300	360	2275	9.71	3235	66	270	3.75	-3.49	16.4
		400	2392	9.39	3319	65	244	3.45	-3.22	15.9
		440	2499	9.10	3396	63	223	3.18	-2.98	15.4
		480	2595	8.81	3468	62	204	2.95	-2.77	14.9
		520	2684	8.54	3535	60	187	2.75	-2.59	14.4
		560	2765	8.28	3597	59	172	2.57	-2.42	14.0
30	2400	360	2319	10.15	3338	68	281	3.84	-3.58	17.1
		400	2440	9.83	3423	66	256	3.54	-3.30	16.6
		440	2550	9.54	3502	64	234	3.27	-3.06	16.1
		480	2650	9.25	3575	63	214	3.04	-2.85	15.6
		520	2742	8.98	3644	62	197	2.84	-2.67	15.2
		560	2827	8.72	3708	60	182	2.66	-2.51	14.7
30	2500	360	2361	10.58	3439	69	293	3.93	-3.66	17.9
		400	2486	10.27	3525	67	267	3.63	-3.38	17.3
		440	2599	9.98	3606	66	244	3.36	-3.15	16.8
		480	2702	9.69	3681	64	225	3.13	-2.94	16.4
		520	2797	9.42	3751	63	208	2.93	-2.75	15.9
		560	2885	9.17	3817	62	192	2.75	-2.59	15.5
30	2600	360	2401	11.02	3539	70	304	4.02	-3.74	18.6
		400	2529	10.71	3627	69	278	3.72	-3.47	18.1
		440	2645	10.41	3709	67	255	3.45	-3.23	17.6
		480	2751	10.13	3785	66	235	3.22	-3.02	17.1
		520	2849	9.86	3857	64	218	3.02	-2.83	16.6
		560	2939	9.60	3924	63	202	2.84	-2.67	16.2
30	2700	360	2439	11.45	3638	71	315	4.10	-3.82	19.3
		400	2569	11.14	3727	70	289	3.80	-3.54	18.8
		440	2688	10.85	3810	68	266	3.54	-3.31	18.3
		480	2797	10.57	3888	67	246	3.31	-3.10	17.8
		520	2898	10.30	3961	66	228	3.10	-2.91	17.4
		560	2991	10.04	4030	65	212	2.92	-2.74	16.9
30	2800	360	2475	11.87	3737	72	326	4.18	-3.90	20.0
		400	2608	11.57	3826	71	299	3.88	-3.62	19.5
		440	2730	11.28	3910	69	276	3.62	-3.38	19.0
		480	2842	11.00	3989	68	256	3.39	-3.17	18.6
		520	2945	10.73	4063	67	238	3.19	-2.99	18.1
		560	3040	10.48	4133	66	222	3.00	-2.82	17.7
30	2900	360	2509	12.30	3835	73	336	4.26	-3.97	20.8
		400	2645	12.00	3925	72	310	3.96	-3.70	20.2
		440	2769	11.71	4010	71	287	3.70	-3.46	19.8
		480	2883	11.43	4089	69	267	3.47	-3.25	19.3
		520	2989	11.16	4164	68	248	3.27	-3.06	18.8
		560	3087	10.91	4235	67	232	3.08	-2.90	18.4
30	3000	360	2541	12.73	3932	74	346	4.34	-4.04	21.5
		400	2680	12.42	4(23	73	320	4.04	-3.77	21.0
		440	2806	12.13	4108	72	297	3.78	-3.53	20.5
		480	2923	11.86	4188	71	277	3.55	-3.32	20.0
		520	3031	11.59	4264	69	258	3.35	-3.14	19.6
		560	3131	11.34	4336	68	242	3.16	-2.97	19.1

Table 6-13. (Sheet 1)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	RELEASE ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS DRIFT FT/KNOTS	WIND CORRECTION FACTOR CROSS CRAB FT/KNOTS
0	360	100	1236	1232	2.44	2.44	100	122	86	.30	-.28	4.11	.86
0	400	100	1356	1353	2.46	2.46	100	135	78	.25	-.23	4.16	.94
0	440	100	1474	1471	2.49	2.49	100	149	72	.21	-.20	4.20	1.02
0	480	100	1589	1586	2.51	2.51	100	162	67	.18	-.17	4.24	1.10
0	520	100	1701	1698	2.53	2.53	100	176	62	.16	-.15	4.28	1.18
0	560	100	1811	1808	2.56	2.56	100	189	58	.14	-.14	4.31	1.25
0	360	150	1469	1461	3.13	3.13	150	122	106	.40	-.37	5.28	1.39
0	400	150	1604	1597	3.16	3.16	150	135	97	.34	-.32	5.34	1.51
0	440	150	1736	1729	3.20	3.20	150	149	90	.29	-.27	5.40	1.63
0	480	150	1863	1857	3.23	3.23	150	162	84	.25	-.24	5.45	1.75
0	520	150	1987	1981	3.26	3.26	150	176	78	.22	-.21	5.50	1.86
0	560	150	2108	2102	3.29	3.29	150	189	74	.20	-.19	5.55	1.97
0	360	200	1649	1637	3.72	3.72	200	122	125	.50	-.46	6.28	1.91
0	400	200	1795	1784	3.77	3.77	200	135	115	.42	-.40	6.36	2.07
0	440	200	1935	1925	3.81	3.81	200	149	107	.37	-.34	6.43	2.22
0	480	200	2071	2051	3.85	3.85	200	162	100	.32	-.30	6.49	2.37
0	520	200	2202	2193	3.88	3.88	200	176	94	.29	-.27	6.56	2.51
0	560	200	2329	2320	3.92	3.92	200	189	89	.26	-.25	6.62	2.64
0	360	250	1798	1781	4.26	4.25	250	122	143	.60	-.55	7.18	2.41
0	400	250	1951	1935	4.31	4.31	250	135	132	.51	-.47	7.27	2.60
0	440	250	2098	2083	4.35	4.35	250	149	122	.45	-.42	7.35	2.78
0	480	250	2239	2225	4.40	4.40	250	162	115	.39	-.37	7.42	2.96
0	520	250	2376	2352	4.44	4.44	250	176	108	.35	-.33	7.50	3.12
0	560	250	2507	2495	4.48	4.48	250	189	102	.32	-.30	7.56	3.28
0	360	300	1926	1902	4.74	4.74	300	122	160	.69	-.64	8.01	2.89
0	400	300	2084	2062	4.80	4.80	300	135	148	.60	-.55	8.10	3.11
0	440	300	2236	2216	4.85	4.85	300	149	137	.52	-.49	8.19	3.32
0	480	300	2382	2363	4.90	4.90	300	162	129	.46	-.43	8.28	3.52
0	520	300	2522	2504	4.95	4.95	300	176	122	.42	-.39	8.35	3.71
0	560	300	2657	2640	4.99	4.99	300	189	115	.38	-.36	8.43	3.88
0	360	350	2038	2008	5.20	5.20	350	122	176	.79	-.73	8.77	3.36
0	400	350	2201	2173	5.26	5.26	350	135	163	.68	-.63	8.88	3.61
0	440	350	2357	2331	5.32	5.32	350	149	152	.60	-.56	8.97	3.85
0	480	350	2506	2481	5.37	5.37	350	162	143	.54	-.50	9.06	4.06
0	520	350	2649	2625	5.42	5.42	350	176	135	.48	-.45	9.15	4.27
0	560	350	2786	2764	5.47	5.47	350	189	128	.44	-.41	9.23	4.46
0	360	400	2139	2101	5.62	5.62	400	122	191	.89	-.81	9.49	3.82
0	400	400	2306	2271	5.69	5.69	400	135	177	.77	-.71	9.60	4.09
0	440	400	2464	2432	5.75	5.75	400	149	166	.68	-.63	9.71	4.35
0	480	400	2616	2585	5.81	5.81	400	162	156	.61	-.56	9.80	4.59
0	520	400	2761	2732	5.86	5.86	400	176	148	.55	-.51	9.89	4.81
0	560	400	2901	2873	5.91	5.91	400	189	141	.50	-.47	9.98	5.02
0	360	450	2231	2185	6.03	6.03	450	122	206	.98	-.90	10.17	4.27
0	400	450	2401	2358	6.10	6.10	450	135	191	.86	-.79	10.29	4.56
0	440	450	2562	2522	6.16	6.15	450	149	179	.76	-.70	10.40	4.84
0	480	450	2716	2678	6.22	6.22	450	162	169	.68	-.63	10.50	5.09
0	520	450	2863	2827	6.28	6.28	450	176	160	.62	-.57	10.60	5.33
0	560	450	3004	2970	6.33	6.33	450	189	153	.56	-.52	10.69	5.55
0	360	500	2316	2262	6.41	6.41	500	122	221	1.08	-.98	10.82	4.71
0	400	500	2488	2437	6.48	6.48	500	135	205	.94	-.86	10.95	5.02
0	440	500	2651	2604	6.55	6.55	500	149	192	.83	-.77	11.06	5.31
0	480	500	2807	2762	6.62	6.62	500	162	182	.75	-.69	11.17	5.58
0	520	500	2955	2913	6.68	6.68	500	176	172	.68	-.63	11.27	5.84
0	560	500	3098	3057	6.73	6.73	500	189	164	.62	-.58	11.36	6.07

Table 6-13. (Sheet 2)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	RELEASE ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS DRIFT FT/KNOTS	WIND CORRECTION FACTOR CROSS CRAB FT/KNOTS
0	400	600	2645	2576	7.21	7.21	600	135	232	1.11	-1.01	12.18	5.90
0	440	600	2812	2747	7.29	7.29	600	149	218	.99	-.91	12.30	6.23
0	480	600	2970	2909	7.36	7.36	600	162	206	.89	-.82	12.42	6.53
0	520	600	3121	3063	7.42	7.42	600	176	196	.81	-.75	12.52	6.80
0	560	600	3265	3210	7.48	7.48	600	189	187	.75	-.69	12.62	7.06
0	480	700	3114	3034	8.05	8.05	700	162	229	1.04	-.95	13.58	7.43
0	520	700	3266	3190	8.11	8.11	700	176	218	.95	-.87	13.69	7.73
0	560	700	3412	3339	8.17	8.17	700	189	209	.87	-.81	13.80	8.00
0	560	800	3544	3453	8.83	8.83	800	189	230	1.00	-.92	14.90	8.90

Table 6-13. (Sheet 3)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS FT/KNCTS
10	360	300	1209	1171	2.42	2.25	279	61	81	.86	-.80	3.94
10	400	300	1263	1227	2.29	2.11	277	62	70	.74	-.70	3.71
10	440	300	1310	1275	2.17	1.97	274	63	61	.64	-.61	3.50
10	480	300	1351	1317	2.06	1.85	272	63	54	.57	-.54	3.30
10	520	300	1387	1354	1.95	1.73	270	63	47	.51	-.49	3.11
10	560	300	1419	1387	1.86	1.62	267	63	42	.46	-.44	2.94
10	360	400	1481	1426	3.19	3.03	379	71	103	1.01	-.95	5.25
10	400	400	1554	1502	3.05	2.88	377	74	90	.87	-.82	5.01
10	440	400	1620	1570	2.93	2.73	374	77	79	.77	-.72	4.78
10	480	400	1679	1630	2.80	2.59	372	79	69	.68	-.64	4.56
10	520	400	1731	1685	2.69	2.46	370	81	62	.61	-.58	4.35
10	560	400	1779	1733	2.58	2.34	367	82	55	.55	-.52	4.15
10	360	500	1712	1638	3.93	3.77	479	79	125	1.17	-1.09	6.50
10	400	500	1802	1731	3.79	3.62	477	84	110	1.02	-.95	6.26
10	440	500	1883	1815	3.67	3.48	474	88	97	.89	-.84	6.03
10	480	500	1957	1892	3.54	3.34	472	92	87	.79	-.75	5.80
10	520	500	2025	1962	3.42	3.20	470	95	78	.71	-.67	5.59
10	560	500	2087	2026	3.31	3.07	467	98	70	.64	-.61	5.38
10	360	600	1913	1817	4.63	4.48	579	85	148	1.33	-1.23	7.69
10	400	600	2016	1924	4.50	4.34	577	91	131	1.16	-1.08	7.46
10	440	600	2110	2023	4.38	4.20	574	97	117	1.02	-.96	7.24
10	480	600	2197	2114	4.26	4.06	572	102	105	.91	-.86	7.02
10	520	600	2277	2197	4.14	3.92	570	107	95	.82	-.78	6.81
10	560	600	2352	2274	4.03	3.79	567	111	86	.75	-.71	6.60
10	360	700	2091	1970	5.30	5.16	679	89	170	1.49	-1.38	8.83
10	400	700	2204	2090	5.18	5.02	677	97	152	1.31	-1.21	8.61
10	440	700	2309	2200	5.06	4.89	674	104	136	1.16	-1.08	8.40
10	480	700	2406	2302	4.95	4.76	672	110	123	1.04	-.97	8.19
10	520	700	2497	2397	4.84	4.63	670	117	112	.94	-.88	7.99
10	560	700	2581	2485	4.73	4.50	667	122	102	.85	-.80	7.78
10	360	800	2252	2105	5.94	5.81	779	93	192	1.65	-1.52	9.92
10	400	800	2373	2234	5.83	5.68	777	101	172	1.45	-1.34	9.72
10	440	800	2486	2354	5.72	5.55	774	109	156	1.29	-1.20	9.51
10	480	800	2592	2465	5.61	5.43	772	117	142	1.16	-1.09	9.32
10	520	800	2691	2569	5.51	5.30	770	124	130	1.05	-.99	9.12
10	560	800	2783	2666	5.40	5.18	767	131	119	.96	-.90	8.93
10	360	900	2398	2223	6.56	6.43	879	96	213	1.81	-1.66	10.96
10	400	900	2527	2361	6.46	6.31	877	105	192	1.60	-1.48	10.77
10	440	900	2646	2489	6.35	6.19	874	114	175	1.43	-1.32	10.59
10	480	900	2759	2608	6.25	6.07	872	122	160	1.29	-1.20	10.40
10	520	900	2864	2719	6.15	5.96	870	130	147	1.17	-1.10	10.22
10	560	900	2963	2823	6.05	5.84	867	138	136	1.07	-1.01	10.04
10	360	1000	2534	2329	7.15	7.03	979	99	234	1.97	-1.80	11.97
10	400	1000	2668	2474	7.06	6.92	977	108	212	1.74	-1.61	11.79
10	440	1000	2793	2608	6.96	6.81	974	117	194	1.56	-1.45	11.62
10	480	1000	2911	2734	6.87	6.69	972	126	178	1.42	-1.32	11.44
10	520	1000	3021	2851	6.77	6.58	970	135	165	1.29	-1.20	11.27
10	560	1000	3126	2962	6.68	6.48	967	143	153	1.19	-1.11	11.10
10	480	1500	3533	3199	9.66	9.52	1472	139	266	2.04	-1.88	16.19
10	520	1500	3659	3337	9.60	9.43	1470	150	250	1.89	-1.74	16.06
10	560	1500	3778	3468	9.53	9.35	1467	160	236	1.75	-1.62	15.93

Table 6-13. (Sheet 4)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 — HIGH DRAG

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	RELEASE ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
15	360	400	1212	1144	2.43	2.23	369	48	79	1.13	-1.06	3.93
15	400	400	1253	1187	2.27	2.05	365	48	68	.98	-.92	3.65
15	440	400	1287	1223	2.13	1.90	362	47	59	.86	-.82	3.39
15	480	400	1316	1254	1.99	1.75	358	47	51	.76	-.73	3.16
15	520	400	1341	1280	1.87	1.63	355	45	45	.68	-.66	2.95
15	560	400	1363	1303	1.76	1.51	351	44	40	.62	-.60	2.76
15	360	500	1441	1352	3.06	2.86	469	56	97	1.27	-1.19	5.00
15	400	500	1496	1410	2.89	2.67	465	57	83	1.10	-1.04	4.70
15	440	500	1543	1460	2.73	2.50	462	58	72	.97	-.92	4.41
15	480	500	1584	1503	2.58	2.33	458	58	63	.86	-.82	4.15
15	520	500	1619	1540	2.44	2.18	455	57	56	.77	-.74	3.90
15	560	500	1651	1573	2.31	2.04	451	57	49	.70	-.67	3.67
15	360	600	1647	1534	3.69	3.50	569	64	115	1.41	-1.32	6.07
15	400	600	1714	1606	3.51	3.30	565	66	99	1.23	-1.16	5.75
15	440	600	1774	1669	3.34	3.11	562	68	87	1.09	-1.02	5.44
15	480	600	1826	1725	3.18	2.93	558	69	76	.97	-.92	5.16
15	520	600	1873	1774	3.03	2.76	555	69	67	.87	-.83	4.89
15	560	600	1914	1818	2.89	2.61	551	69	60	.79	-.75	4.64
15	360	700	1833	1695	4.31	4.12	669	70	133	1.56	-1.45	7.12
15	400	700	1912	1780	4.13	3.92	665	73	116	1.36	-1.28	6.79
15	440	700	1983	1855	3.96	3.72	662	76	102	1.21	-1.13	6.48
15	480	700	2046	1923	3.79	3.54	658	78	90	1.08	-1.02	6.18
15	520	700	2103	1983	3.63	3.36	655	80	80	.97	-.92	5.90
15	560	700	2154	2038	3.48	3.19	651	81	72	.88	-.84	5.63
15	360	800	2004	1837	4.92	4.73	769	75	152	1.71	-1.58	8.14
15	400	800	2093	1934	4.74	4.53	765	80	133	1.50	-1.40	7.82
15	440	800	2173	2021	4.56	4.33	762	84	118	1.33	-1.25	7.50
15	480	800	2246	2099	4.39	4.14	758	87	105	1.19	-1.12	7.20
15	520	800	2313	2170	4.23	3.96	755	90	94	1.08	-1.02	6.92
15	560	800	2373	2234	4.08	3.79	751	92	85	.98	-.93	6.64
15	360	900	2161	1964	5.51	5.33	869	80	171	1.85	-1.72	9.14
15	400	900	2258	2071	5.33	5.12	865	85	151	1.63	-1.52	8.82
15	440	900	2347	2168	5.16	4.93	862	90	134	1.45	-1.36	8.51
15	480	900	2429	2256	4.99	4.74	858	94	120	1.31	-1.23	8.21
15	520	900	2504	2336	4.83	4.56	855	98	108	1.18	-1.12	7.93
15	560	900	2572	2410	4.68	4.38	851	101	98	1.08	-1.02	7.65
15	360	1000	2307	2079	6.09	5.91	969	83	190	2.00	-1.85	10.12
15	400	1000	2412	2195	5.91	5.71	965	90	169	1.77	-1.64	9.81
15	440	1000	2508	2300	5.74	5.52	962	95	151	1.58	-1.47	9.50
15	480	1000	2597	2396	5.58	5.33	958	101	136	1.43	-1.33	9.21
15	520	1000	2679	2485	5.42	5.15	955	106	123	1.30	-1.22	8.92
15	560	1000	2755	2567	5.27	4.98	951	110	112	1.18	-1.12	8.64
15	360	1500	2926	2512	8.77	8.61	1469	96	279	2.70	-2.48	14.66
15	400	1500	3054	2660	8.62	8.44	1465	104	254	2.43	-2.24	14.39
15	440	1500	3173	2796	8.47	8.27	1462	113	233	2.21	-2.04	14.13
15	480	1500	3284	2922	8.33	8.11	1458	122	215	2.02	-1.87	13.87
15	520	1500	3390	3040	8.19	7.95	1455	130	199	1.86	-1.73	13.62
15	560	1500	3489	3150	8.06	7.80	1451	138	185	1.72	-1.60	13.38
15	480	2000	3831	3267	10.82	10.62	1958	132	290	2.58	-2.38	18.10
15	520	2000	3946	3401	10.70	10.49	1955	142	272	2.40	-2.22	17.88
15	560	2000	4055	3527	10.59	10.35	1951	152	256	2.25	-2.08	17.67

Table 6-13. (Sheet 5)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNCTS
20	360	700	1603	1442	3.54	3.31	658	52	107	1.65	-1.55	5.78
20	400	700	1655	1499	3.33	3.08	654	53	91	1.44	-1.36	5.41
20	440	700	1699	1548	3.13	2.87	649	53	79	1.28	-1.21	5.06
20	480	700	1738	1591	2.95	2.67	645	53	69	1.14	-1.09	4.74
20	520	700	1771	1627	2.79	2.49	640	52	60	1.03	-.98	4.45
20	560	700	1800	1658	2.63	2.33	635	51	54	.94	-.90	4.18
20	360	800	1775	1584	4.09	3.86	758	58	122	1.79	-1.67	6.71
20	400	800	1836	1652	3.87	3.62	754	59	105	1.57	-1.47	6.32
20	440	800	1889	1711	3.66	3.39	749	60	91	1.39	-1.31	5.95
20	480	800	1936	1763	3.47	3.18	745	61	80	1.25	-1.18	5.61
20	520	800	1977	1808	3.29	2.99	740	61	71	1.12	-1.07	5.29
20	560	800	2013	1847	3.12	2.80	735	60	63	1.02	-.98	5.00
20	360	900	1936	1714	4.63	4.41	858	63	138	1.92	-1.79	7.63
20	400	900	2005	1792	4.41	4.16	854	65	120	1.69	-1.58	7.23
20	440	900	2067	1860	4.19	3.92	849	67	104	1.50	-1.42	6.85
20	480	900	2121	1921	3.99	3.70	845	68	92	1.35	-1.28	6.49
20	520	900	2170	1974	3.81	3.49	840	69	81	1.22	-1.16	6.16
20	560	900	2213	2022	3.63	3.30	835	69	72	1.11	-1.06	5.85
20	360	1000	2087	1831	5.17	4.95	958	67	154	2.06	-1.91	8.54
20	400	1000	2164	1919	4.94	4.70	954	71	134	1.82	-1.70	8.14
20	440	1000	2233	1997	4.73	4.46	949	73	118	1.62	-1.52	7.75
20	480	1000	2295	2066	4.52	4.23	945	75	104	1.46	-1.38	7.39
20	520	1000	2351	2127	4.33	4.01	940	77	93	1.32	-1.25	7.04
20	560	1000	2401	2183	4.14	3.81	935	78	83	1.21	-1.15	6.71
20	360	1500	2736	2288	7.76	7.55	1458	83	234	2.72	-2.51	12.92
20	400	1500	2840	2412	7.54	7.31	1454	90	210	2.44	-2.26	12.53
20	440	1500	2937	2525	7.33	7.07	1449	96	189	2.21	-2.06	12.16
20	480	1500	3026	2628	7.13	6.85	1445	102	172	2.01	-1.88	11.79
20	520	1500	3109	2724	6.93	6.63	1440	107	156	1.85	-1.73	11.44
20	560	1500	3186	2811	6.75	6.41	1435	112	143	1.70	-1.60	11.10
20	360	2000	3279	2598	10.17	9.98	1958	92	309	3.32	-3.05	17.00
20	400	2000	3397	2745	9.97	9.75	1954	101	283	3.02	-2.79	16.64
20	440	2000	3507	2881	9.77	9.53	1949	109	260	2.77	-2.57	16.29
20	480	2000	3611	3006	9.59	9.32	1945	117	240	2.56	-2.37	15.96
20	520	2000	3708	3123	9.41	9.12	1940	125	223	2.37	-2.21	15.63
20	560	2000	3800	3231	9.23	8.92	1935	133	207	2.21	-2.06	15.31
20	480	2500	4121	3276	11.90	11.65	2445	127	305	3.06	-2.83	19.87
20	520	2500	4225	3406	11.73	11.46	2440	136	286	2.86	-2.65	19.57
20	560	2500	4324	3528	11.57	11.27	2435	145	269	2.69	-2.50	19.27

Table 6-13. (Sheet 6)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS DRIFT FT/KNOTS	CRAB FT/KNOTS
0	360	100	1297	1293	2.44	2.44	100	243	82	.27	-.25	4.11	.86
0	400	100	1424	1420	2.46	2.46	100	270	74	.23	-.21	4.16	.94
0	440	100	1548	1545	2.49	2.49	100	297	68	.19	-.18	4.20	1.02
0	480	100	1670	1667	2.51	2.51	100	324	63	.17	-.16	4.24	1.10
0	520	100	1789	1786	2.53	2.53	100	351	59	.15	-.14	4.28	1.18
0	560	100	1905	1903	2.56	2.56	100	378	55	.13	-.12	4.31	1.25
0	360	150	1529	1522	3.13	3.13	150	243	102	.37	-.34	5.28	1.39
0	400	150	1672	1665	3.16	3.16	150	270	93	.31	-.29	5.34	1.51
0	440	150	1810	1803	3.20	3.20	150	297	86	.27	-.25	5.40	1.63
0	480	150	1944	1938	3.23	3.23	150	324	80	.23	-.22	5.45	1.75
0	520	150	2075	2069	3.26	3.26	150	351	75	.21	-.19	5.50	1.86
0	560	150	2202	2197	3.29	3.29	150	378	71	.18	-.17	5.55	1.97
0	360	200	1710	1698	3.72	3.72	200	243	121	.46	-.43	6.28	1.91
0	400	200	1862	1851	3.77	3.77	200	270	111	.39	-.37	6.36	2.07
0	440	200	2009	1999	3.81	3.81	200	297	103	.34	-.32	6.43	2.22
0	480	200	2152	2142	3.85	3.85	200	324	96	.30	-.28	6.49	2.37
0	520	200	2289	2281	3.88	3.88	200	351	90	.27	-.25	6.56	2.51
0	560	200	2423	2415	3.92	3.92	200	378	85	.24	-.23	6.62	2.64
0	360	250	1858	1841	4.26	4.26	250	243	138	.56	-.52	7.18	2.41
0	400	250	2018	2002	4.31	4.31	250	270	127	.48	-.44	7.27	2.60
0	440	250	2172	2157	4.35	4.35	250	297	118	.42	-.39	7.35	2.78
0	480	250	2320	2306	4.40	4.40	250	324	111	.37	-.34	7.42	2.96
0	520	250	2463	2450	4.44	4.44	250	351	104	.33	-.31	7.50	3.12
0	560	250	2601	2589	4.48	4.48	250	378	99	.30	-.28	7.56	3.28
0	360	300	1986	1963	4.74	4.74	300	243	155	.65	-.60	8.01	2.89
0	400	300	2151	2130	4.80	4.80	300	270	143	.56	-.52	8.10	3.11
0	440	300	2310	2290	4.85	4.85	300	297	133	.49	-.46	8.19	3.32
0	480	300	2462	2444	4.90	4.90	300	324	125	.43	-.41	8.28	3.52
0	520	300	2609	2592	4.95	4.95	300	351	118	.39	-.37	8.35	3.71
0	560	300	2751	2734	4.99	4.99	300	378	112	.35	-.33	8.43	3.88
0	360	350	2098	2069	5.20	5.20	350	243	171	.74	-.69	8.77	3.36
0	400	350	2268	2241	5.26	5.26	350	270	158	.64	-.59	8.88	3.61
0	440	350	2430	2405	5.32	5.32	350	297	147	.56	-.52	8.97	3.85
0	480	350	2586	2562	5.37	5.37	350	324	138	.50	-.47	9.06	4.06
0	520	350	2736	2713	5.42	5.42	350	351	131	.45	-.42	9.15	4.27
0	560	350	2880	2859	5.47	5.47	350	378	124	.41	-.39	9.23	4.46
0	360	400	2199	2162	5.62	5.62	400	243	186	.84	-.77	9.49	3.82
0	400	400	2372	2338	5.69	5.69	400	270	172	.73	-.67	9.60	4.09
0	440	400	2538	2506	5.75	5.75	400	297	161	.64	-.59	9.71	4.35
0	480	400	2696	2666	5.81	5.81	400	324	151	.57	-.53	9.80	4.59
0	520	400	2848	2820	5.86	5.86	400	351	143	.52	-.48	9.89	4.81
0	560	400	2994	2967	5.91	5.91	400	378	136	.47	-.44	9.98	5.02
0	360	450	2291	2246	6.03	6.03	450	243	201	.93	-.85	10.17	4.27
0	400	450	2467	2426	6.10	6.10	450	270	186	.81	-.74	10.29	4.56
0	440	450	2635	2596	6.16	6.16	450	297	174	.71	-.66	10.40	4.84
0	480	450	2796	2759	6.22	6.22	450	324	164	.64	-.59	10.50	5.09
0	520	450	2949	2915	6.28	6.28	450	351	155	.58	-.54	10.60	5.33
0	560	450	3097	3064	6.33	6.33	450	378	148	.53	-.49	10.69	5.55
0	360	500	2376	2322	6.41	6.41	500	243	215	1.02	-.93	10.82	4.71
0	400	500	2554	2505	6.48	6.48	500	270	200	.89	-.82	10.95	5.02
0	440	500	2724	2678	6.55	6.55	500	297	187	.79	-.73	11.06	5.31
0	480	500	2887	2843	6.62	6.62	500	324	176	.71	-.66	11.17	5.58
0	520	500	3042	3001	6.68	6.68	500	351	167	.64	-.60	11.27	5.84
0	560	500	3191	3152	6.73	6.73	500	378	159	.59	-.55	11.36	6.07

Table 6-13. (Sheet 7)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS DRIFT FT/KNOTS	CROSS CRAB FT/KNOTS
0	400	600	2711	2644	7.21	7.21	600	270	226	1.06	-.97	12.18	5.90
0	440	600	2884	2821	7.29	7.29	600	297	212	.94	-.86	12.30	6.23
0	480	600	3049	2990	7.36	7.36	600	324	200	.85	-.78	12.42	6.53
0	520	600	3207	3150	7.42	7.42	600	351	190	.77	-.71	12.52	6.80
0	560	600	3358	3304	7.48	7.48	600	378	182	.71	-.66	12.62	7.06
0	440	700	3026	2944	7.97	7.97	700	297	236	1.09	-1.00	13.46	7.11
0	480	700	3193	3115	8.05	8.05	700	324	223	.99	-.91	13.58	7.43
0	520	700	3352	3278	8.11	8.11	700	351	212	.90	-.83	13.69	7.73
0	560	700	3505	3434	8.17	8.17	700	378	203	.83	-.77	13.80	8.00
0	520	800	3483	3390	8.76	8.76	800	351	234	1.03	-.95	14.79	8.61
0	560	800	3636	3547	8.83	8.83	800	378	224	.95	-.88	14.90	8.90

Table 6-13. (Sheet 8)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 — HIGH DRAG

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
10	360	300	1237	1200	2.42	2.08	258	119	75	.79	-.74	3.80
10	400	300	1292	1256	2.29	1.92	253	121	64	.67	-.64	3.55
10	440	300	1339	1305	2.17	1.78	248	122	56	.59	-.56	3.33
10	480	300	1380	1347	2.06	1.64	244	122	49	.52	-.49	3.12
10	520	300	1415	1383	1.95	1.52	239	121	43	.46	-.44	2.92
10	560	300	1446	1415	1.86	1.40	234	119	38	.41	-.40	2.74
10	360	400	1514	1460	3.19	2.87	358	140	97	.94	-.88	5.11
10	400	400	1589	1538	3.05	2.70	353	146	84	.81	-.76	4.86
10	440	400	1656	1606	2.93	2.54	348	151	73	.71	-.67	4.61
10	480	400	1715	1668	2.80	2.38	344	154	64	.62	-.59	4.38
10	520	400	1768	1722	2.69	2.24	339	156	57	.56	-.53	4.16
10	560	400	1816	1771	2.58	2.10	334	157	51	.50	-.48	3.95
10	360	500	1749	1676	3.93	3.62	458	156	119	1.10	-1.02	6.37
10	400	500	1841	1772	3.79	3.45	453	166	104	.95	-.89	6.12
10	440	500	1924	1858	3.67	3.29	448	174	91	.83	-.78	5.87
10	480	500	2000	1937	3.54	3.13	444	181	81	.74	-.70	5.63
10	520	500	2069	2008	3.42	2.98	439	186	72	.66	-.62	5.40
10	560	500	2132	2073	3.31	2.83	434	191	65	.59	-.57	5.18
10	360	600	1953	1858	4.63	4.34	558	168	141	1.26	-1.17	7.57
10	400	600	2059	1969	4.50	4.17	553	181	124	1.09	-1.02	7.32
10	440	600	2156	2070	4.38	4.01	548	192	110	.96	-.90	7.08
10	480	600	2245	2163	4.26	3.86	544	202	99	.85	-.80	6.85
10	520	600	2327	2249	4.14	3.71	539	211	89	.76	-.72	6.62
10	560	600	2404	2328	4.03	3.56	534	219	80	.69	-.66	6.40
10	360	700	2133	2015	5.30	5.02	658	178	163	1.41	-1.31	8.71
10	400	700	2250	2138	5.18	4.87	653	192	145	1.23	-1.15	8.48
10	440	700	2358	2251	5.06	4.71	648	206	130	1.09	-1.02	8.25
10	480	700	2458	2356	4.95	4.56	644	219	117	.97	-.91	8.03
10	520	700	2552	2454	4.84	4.41	639	230	106	.88	-.83	7.81
10	560	700	2639	2544	4.73	4.27	634	241	96	.79	-.75	7.59
10	360	800	2295	2151	5.94	5.68	758	186	185	1.57	-1.45	9.81
10	400	800	2420	2284	5.83	5.53	753	202	165	1.38	-1.28	9.59
10	440	800	2537	2408	5.72	5.38	748	217	149	1.22	-1.14	9.37
10	480	800	2647	2523	5.61	5.24	744	232	135	1.09	-1.02	9.16
10	520	800	2749	2630	5.51	5.10	739	246	123	.99	-.93	8.95
10	560	800	2845	2730	5.40	4.96	734	259	113	.90	-.85	8.75
10	360	900	2443	2271	6.56	6.30	858	192	206	1.73	-1.59	10.86
10	400	900	2575	2413	6.46	6.17	853	209	185	1.52	-1.41	10.65
10	440	900	2699	2545	6.35	6.03	848	226	168	1.35	-1.26	10.45
10	480	900	2816	2668	6.25	5.89	844	243	153	1.22	-1.14	10.25
10	520	900	2925	2783	6.15	5.76	839	258	140	1.10	-1.03	10.05
10	560	900	3028	2891	6.05	5.63	834	274	129	1.01	-.95	9.86
10	360	1000	2579	2378	7.15	6.91	958	197	226	1.88	-1.73	11.87
10	400	1000	2718	2527	7.06	6.78	953	215	205	1.66	-1.53	11.68
10	440	1000	2848	2666	6.96	6.65	948	234	187	1.49	-1.38	11.49
10	480	1000	2970	2796	6.87	6.52	944	251	171	1.34	-1.25	11.30
10	520	1000	3085	2918	6.77	6.40	939	268	158	1.22	-1.14	11.11
10	560	1000	3193	3033	6.68	6.27	934	285	146	1.12	-1.05	10.93
10	480	1500	3596	3268	9.66	9.37	1444	277	258	1.96	-1.80	16.06
10	520	1500	3727	3412	9.60	9.27	1439	298	242	1.80	-1.67	15.92
10	560	1500	3851	3547	9.53	9.18	1434	320	227	1.67	-1.55	15.79

Table 6-13. (Sheet 9)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNOTS
15	360	400	1233	1167	2.43	2.03	337	93	73	1.04	-.98	3.76
15	400	400	1274	1209	2.27	1.84	330	92	62	.90	-.85	3.47
15	440	400	1308	1245	2.13	1.67	323	91	53	.78	-.75	3.20
15	480	400	1336	1275	1.99	1.52	316	88	46	.69	-.66	2.96
15	520	400	1361	1301	1.87	1.39	309	86	41	.62	-.59	2.74
15	560	400	1381	1322	1.76	1.26	302	83	36	.55	-.54	2.55
15	360	500	1466	1378	3.06	2.66	437	110	90	1.18	-1.11	4.83
15	400	500	1521	1437	2.89	2.46	430	112	77	1.02	-.97	4.51
15	440	500	1568	1487	2.73	2.26	423	112	66	.89	-.85	4.21
15	480	500	1609	1529	2.58	2.09	416	111	58	.79	-.76	3.94
15	520	500	1644	1566	2.44	1.92	409	109	51	.71	-.68	3.68
15	560	500	1675	1598	2.31	1.78	402	107	45	.64	-.61	3.44
15	360	600	1676	1564	3.69	3.30	537	125	108	1.33	-1.24	5.90
15	400	600	1744	1637	3.51	3.08	530	129	93	1.15	-1.08	5.56
15	440	600	1804	1701	3.34	2.87	523	132	80	1.01	-.96	5.25
15	480	600	1857	1757	3.18	2.68	516	133	70	.90	-.85	4.95
15	520	600	1903	1806	3.03	2.50	509	133	62	.80	-.77	4.66
15	560	600	1944	1849	2.89	2.33	502	132	55	.72	-.69	4.40
15	360	700	1865	1729	4.31	3.93	637	138	126	1.47	-1.37	6.96
15	400	700	1945	1815	4.13	3.70	630	144	109	1.28	-1.20	6.61
15	440	700	2017	1892	3.96	3.49	623	149	96	1.13	-1.06	6.28
15	480	700	2081	1960	3.79	3.28	616	153	84	1.00	-.95	5.97
15	520	700	2139	2021	3.63	3.09	609	155	74	.90	-.86	5.67
15	560	700	2190	2075	3.48	2.90	602	156	66	.82	-.78	5.39
15	360	800	2038	1874	4.92	4.54	737	149	145	1.62	-1.50	7.98
15	400	800	2129	1973	4.74	4.31	730	157	126	1.41	-1.32	7.64
15	440	800	2211	2061	4.56	4.10	723	164	111	1.25	-1.17	7.31
15	480	800	2285	2141	4.39	3.89	716	170	98	1.12	-1.05	6.99
15	520	800	2353	2212	4.23	3.69	709	175	88	1.00	-.95	6.69
15	560	800	2414	2277	4.08	3.50	702	178	78	.91	-.87	6.39
15	360	900	2196	2004	5.51	5.14	837	158	163	1.76	-1.63	8.99
15	400	900	2297	2113	5.33	4.92	830	168	144	1.55	-1.44	8.65
15	440	900	2388	2212	5.16	4.70	823	178	127	1.37	-1.29	8.32
15	480	900	2471	2302	4.99	4.49	816	186	113	1.23	-1.16	8.00
15	520	900	2548	2383	4.83	4.29	809	193	102	1.11	-1.05	7.70
15	560	900	2618	2458	4.68	4.09	802	198	91	1.01	-.96	7.40
15	360	1000	2344	2120	6.09	5.73	937	165	182	1.91	-1.76	9.97
15	400	1000	2452	2239	5.91	5.51	930	178	161	1.68	-1.56	9.64
15	440	1000	2551	2347	5.74	5.29	923	189	144	1.50	-1.40	9.31
15	480	1000	2642	2446	5.58	5.09	916	199	129	1.34	-1.26	9.00
15	520	1000	2726	2536	5.42	4.88	909	208	116	1.22	-1.15	8.70
15	560	1000	2804	2620	5.27	4.69	902	216	105	1.11	-1.05	8.40
15	360	1500	2967	2560	8.77	8.44	1437	190	271	2.60	-2.39	14.52
15	400	1500	3099	2712	8.62	8.26	1430	208	246	2.33	-2.15	14.24
15	440	1500	3222	2852	8.47	8.07	1423	225	225	2.11	-1.96	13.96
15	480	1500	3338	2982	8.33	7.89	1416	242	206	1.93	-1.79	13.69
15	520	1500	3447	3104	8.19	7.71	1409	258	190	1.77	-1.65	13.42
15	560	1500	3550	3218	8.06	7.53	1402	274	176	1.63	-1.53	13.16
15	480	2000	3887	3333	10.82	10.42	1916	264	281	2.48	-2.30	17.93
15	520	2000	4007	3472	10.70	10.26	1909	284	263	2.30	-2.13	17.70
15	560	2000	4121	3603	10.59	10.11	1902	303	247	2.15	-1.99	17.47

Table 6-13. (Sheet 10)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 100 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNOTS
20	360	700	1626	1467	3.54	3.08	617	102	100	1.55	-1.46	5.59
20	400	700	1677	1524	3.33	2.83	608	103	85	1.35	-1.28	5.20
20	440	700	1722	1573	3.13	2.61	598	102	73	1.19	-1.13	4.84
20	480	700	1760	1615	2.95	2.40	589	101	63	1.06	-1.01	4.51
20	520	700	1792	1650	2.79	2.20	580	99	55	.95	-.91	4.20
20	560	700	1821	1681	2.63	2.03	571	96	49	.86	-.82	3.93
20	360	800	1800	1612	4.09	3.63	717	114	115	1.68	-1.58	6.51
20	400	800	1861	1681	3.87	3.37	708	116	98	1.47	-1.39	6.11
20	440	800	1915	1740	3.66	3.12	698	117	85	1.30	-1.23	5.72
20	480	800	1962	1791	3.47	2.90	689	117	74	1.16	-1.10	5.37
20	520	800	2002	1835	3.29	2.69	680	116	65	1.04	-.99	5.04
20	560	800	2038	1874	3.12	2.49	671	114	57	.94	-.90	4.73
20	360	900	1963	1744	4.63	4.18	817	124	131	1.82	-1.70	7.44
20	400	900	2033	1823	4.41	3.91	808	128	113	1.59	-1.50	7.02
20	440	900	2096	1892	4.19	3.65	798	131	98	1.41	-1.33	6.62
20	480	900	2150	1953	3.99	3.41	789	133	85	1.26	-1.20	6.25
20	520	900	2199	2006	3.81	3.19	780	133	75	1.14	-1.08	5.90
20	560	900	2242	2053	3.63	2.98	771	132	67	1.03	-.99	5.57
20	360	1000	2115	1864	5.17	4.72	917	133	146	1.95	-1.82	8.35
20	400	1000	2194	1953	4.94	4.45	908	139	127	1.72	-1.61	7.93
20	440	1000	2265	2032	4.73	4.19	898	144	111	1.53	-1.44	7.52
20	480	1000	2327	2102	4.52	3.94	889	147	98	1.37	-1.29	7.14
20	520	1000	2384	2164	4.33	3.70	880	149	86	1.24	-1.17	6.77
20	560	1000	2434	2219	4.14	3.48	871	150	77	1.12	-1.07	6.43
20	360	1500	2770	2329	7.76	7.34	1417	166	226	2.61	-2.42	12.75
20	400	1500	2878	2456	7.54	7.08	1408	179	202	2.34	-2.17	12.34
20	440	1500	2978	2572	7.33	6.82	1398	191	181	2.11	-1.97	11.94
20	480	1500	3070	2678	7.13	6.56	1389	202	164	1.92	-1.79	11.56
20	520	1500	3155	2776	6.93	6.32	1380	212	148	1.75	-1.65	11.18
20	560	1500	3235	2866	6.75	6.08	1371	221	135	1.61	-1.52	10.82
20	360	2000	3315	2644	10.17	9.78	1917	184	301	3.21	-2.96	16.84
20	400	2000	3437	2796	9.97	9.53	1908	201	274	2.91	-2.70	16.46
20	440	2000	3552	2935	9.77	9.29	1898	218	251	2.66	-2.47	16.09
20	480	2000	3659	3064	9.59	9.06	1889	233	231	2.45	-2.28	15.73
20	520	2000	3760	3184	9.41	8.83	1880	249	214	2.27	-2.11	15.39
20	560	2000	3856	3297	9.23	8.60	1871	263	198	2.11	-1.97	15.05
20	480	2500	4171	3339	11.90	11.40	2389	252	296	2.95	-2.73	19.66
20	520	2500	4280	3473	11.73	11.18	2380	271	277	2.75	-2.56	19.34
20	560	2500	4383	3600	11.57	10.98	2371	288	260	2.58	-2.40	19.03

Table 6-13. (Sheet 11)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	RELEASE ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS DRIFT FT/KNOTS	WIND CORRECTION FACTOR CROSS CRAB FT/KNOTS
0	360	100	1260	1256	2.44	2.44	100	170	84	.29	-.27	4.11	.86
0	400	100	1383	1380	2.46	2.46	100	189	77	.24	-.22	4.16	.94
0	440	100	1504	1500	2.49	2.49	100	208	70	.20	-.19	4.20	1.02
0	480	100	1621	1618	2.51	2.51	100	227	65	.18	-.17	4.24	1.10
0	520	100	1736	1733	2.53	2.53	100	246	61	.15	-.15	4.28	1.18
0	560	100	1849	1846	2.56	2.56	100	265	57	.14	-.13	4.31	1.25
0	360	150	1493	1486	3.13	3.13	150	170	105	.39	-.36	5.28	1.39
0	400	150	1631	1624	3.16	3.16	150	189	96	.33	-.30	5.34	1.51
0	440	150	1765	1759	3.20	3.20	150	208	88	.28	-.26	5.40	1.63
0	480	150	1896	1890	3.23	3.23	150	227	82	.24	-.23	5.45	1.75
0	520	150	2022	2017	3.26	3.26	150	246	77	.22	-.21	5.50	1.86
0	560	150	2145	2140	3.29	3.29	150	265	73	.19	-.18	5.55	1.97
0	360	200	1673	1661	3.72	3.72	200	170	124	.48	-.45	6.28	1.91
0	400	200	1822	1811	3.77	3.77	200	189	113	.41	-.38	6.36	2.07
0	440	200	1965	1955	3.81	3.81	200	208	105	.36	-.33	6.43	2.22
0	480	200	2103	2094	3.85	3.85	200	227	98	.31	-.29	6.49	2.37
0	520	200	2237	2228	3.88	3.88	200	246	92	.28	-.26	6.56	2.51
0	560	200	2367	2358	3.92	3.92	200	265	87	.25	-.24	6.62	2.64
0	360	250	1822	1805	4.26	4.25	250	170	141	.58	-.54	7.18	2.41
0	400	250	1978	1962	4.31	4.31	250	189	130	.50	-.46	7.27	2.60
0	440	250	2127	2113	4.35	4.35	250	208	121	.43	-.40	7.35	2.78
0	480	250	2271	2258	4.40	4.40	250	227	113	.38	-.36	7.42	2.96
0	520	250	2410	2397	4.44	4.44	250	246	106	.34	-.32	7.50	3.12
0	560	250	2545	2532	4.48	4.48	250	265	101	.31	-.29	7.56	3.28
0	360	300	1950	1926	4.74	4.74	300	170	158	.68	-.62	8.01	2.89
0	400	300	2111	2089	4.80	4.80	300	189	146	.58	-.54	8.10	3.11
0	440	300	2265	2246	4.85	4.85	300	208	136	.51	-.47	8.19	3.32
0	480	300	2414	2395	4.90	4.90	300	227	127	.45	-.42	8.28	3.52
0	520	300	2557	2539	4.95	4.95	300	246	120	.41	-.38	8.35	3.71
0	560	300	2694	2677	4.99	4.99	300	265	114	.37	-.35	8.43	3.88
0	360	350	2062	2032	5.20	5.20	350	170	174	.77	-.71	8.77	3.36
0	400	350	2228	2200	5.26	5.25	350	189	161	.67	-.62	8.88	3.61
0	440	350	2386	2360	5.32	5.32	350	208	150	.59	-.54	8.97	3.85
0	480	350	2538	2514	5.37	5.37	350	227	141	.52	-.49	9.06	4.06
0	520	350	2683	2661	5.42	5.42	350	246	133	.47	-.44	9.15	4.27
0	560	350	2824	2802	5.47	5.47	350	265	127	.43	-.40	9.23	4.46
0	360	400	2163	2126	5.62	5.62	400	170	189	.87	-.79	9.49	3.82
0	400	400	2332	2298	5.69	5.69	400	189	175	.75	-.69	9.60	4.09
0	440	400	2494	2461	5.75	5.75	400	208	164	.66	-.61	9.71	4.35
0	480	400	2648	2618	5.81	5.81	400	227	154	.59	-.55	9.80	4.59
0	520	400	2796	2767	5.86	5.85	400	246	146	.54	-.50	9.89	4.81
0	560	400	2938	2911	5.91	5.91	400	265	139	.49	-.46	9.98	5.02
0	360	450	2255	2210	6.03	6.03	450	170	204	.96	-.88	10.17	4.27
0	400	450	2427	2385	6.10	6.10	450	189	189	.84	-.77	10.29	4.56
0	440	450	2591	2552	6.16	6.16	450	208	177	.74	-.68	10.40	4.84
0	480	450	2748	2710	6.22	6.22	450	227	167	.66	-.61	10.50	5.09
0	520	450	2897	2862	6.28	6.28	450	246	158	.60	-.56	10.60	5.33
0	560	450	3041	3008	6.33	6.33	450	265	151	.55	-.51	10.69	5.55
0	360	500	2340	2286	6.41	6.41	500	170	218	1.05	-.96	10.82	4.71
0	400	500	2514	2464	6.48	6.48	500	189	203	.92	-.84	10.95	5.02
0	440	500	2680	2633	6.55	6.55	500	208	190	.82	-.75	11.06	5.31
0	480	500	2839	2794	6.62	6.62	500	227	179	.73	-.68	11.17	5.58
0	520	500	2990	2948	6.68	6.68	500	246	170	.67	-.62	11.27	5.84
0	560	500	3135	3095	6.73	6.73	500	265	162	.61	-.57	11.36	6.07

Table 6-13. (Sheet 12)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	RELEASE ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS DRIFT FT/KNOTS	WIND CORRECTION FACTOR CROSS CRAB FT/KNOTS
0	400	600	2671	2603	7.21	7.21	600	189	229	1.09	-1.00	12.18	5.90
0	440	600	2841	2776	7.29	7.29	600	208	215	.97	-.89	12.30	6.23
0	480	600	3002	2941	7.36	7.36	600	227	204	.87	-.81	12.42	6.53
0	520	600	3155	3098	7.42	7.42	600	246	194	.80	-.74	12.52	6.80
0	560	600	3302	3247	7.48	7.48	600	265	185	.73	-.68	12.62	7.06
0	480	700	3145	3066	8.05	8.05	700	227	227	1.02	-.93	13.58	7.43
0	520	700	3301	3226	8.11	8.11	700	246	216	.93	-.86	13.69	7.73
0	560	700	3449	3377	8.17	8.17	700	265	206	.86	-.79	13.80	8.00
0	560	800	3581	3490	8.83	8.83	800	265	227	.98	-.90	14.90	8.90

Table 6-13. (Sheet 13)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS FT/KNOTS
10	360	300	1221	1183	2.42	2.18	270	84	79	.83	-.78	3.88
10	400	300	1275	1239	2.29	2.03	267	86	68	.71	-.67	3.65
10	440	300	1322	1287	2.17	1.89	264	87	59	.62	-.59	3.43
10	480	300	1363	1329	2.06	1.77	261	87	52	.55	-.52	3.23
10	520	300	1399	1366	1.95	1.65	257	87	46	.49	-.47	3.04
10	560	300	1430	1398	1.86	1.53	254	86	41	.44	-.42	2.86
10	360	400	1494	1440	3.19	2.96	370	99	100	.98	-.92	5.19
10	400	400	1568	1516	3.05	2.81	367	103	87	.85	-.80	4.95
10	440	400	1634	1585	2.93	2.65	364	107	76	.74	-.70	4.71
10	480	400	1693	1646	2.80	2.51	361	110	67	.66	-.62	4.49
10	520	400	1746	1700	2.69	2.37	357	112	60	.59	-.56	4.27
10	560	400	1794	1749	2.58	2.24	354	113	53	.53	-.50	4.07
10	360	500	1727	1653	3.93	3.71	470	110	123	1.14	-1.06	6.45
10	400	500	1818	1747	3.79	3.55	467	117	108	.99	-.92	6.20
10	440	500	1900	1833	3.67	3.40	464	123	95	.87	-.82	5.96
10	480	500	1975	1910	3.54	3.25	461	128	84	.77	-.73	5.74
10	520	500	2043	1981	3.42	3.11	457	132	76	.69	-.65	5.51
10	560	500	2105	2045	3.31	2.97	454	136	68	.62	-.59	5.30
10	360	600	1929	1833	4.63	4.43	570	118	145	1.30	-1.21	7.64
10	400	600	2033	1942	4.50	4.27	567	127	128	1.13	-1.05	7.41
10	440	600	2128	2042	4.38	4.12	564	135	114	1.00	-.93	7.18
10	480	600	2216	2134	4.26	3.98	561	142	102	.89	-.84	6.95
10	520	600	2298	2218	4.14	3.84	557	149	92	.80	-.75	6.73
10	560	600	2373	2296	4.03	3.70	554	155	84	.72	-.69	6.52
10	360	700	2108	1988	5.30	5.11	670	125	167	1.46	-1.35	8.78
10	400	700	2222	2109	5.18	4.96	667	135	149	1.28	-1.19	8.56
10	440	700	2329	2221	5.06	4.82	664	145	134	1.13	-1.05	8.34
10	480	700	2427	2324	4.95	4.68	661	154	121	1.01	-.95	8.13
10	520	700	2519	2420	4.84	4.54	657	162	110	.91	-.86	7.91
10	560	700	2604	2509	4.73	4.41	654	170	100	.83	-.78	7.71
10	360	800	2269	2123	5.94	5.76	770	130	189	1.62	-1.49	9.87
10	400	800	2392	2254	5.83	5.62	767	142	169	1.42	-1.32	9.66
10	440	800	2507	2376	5.72	5.49	764	153	153	1.26	-1.18	9.46
10	480	800	2614	2488	5.61	5.35	761	163	139	1.13	-1.06	9.25
10	520	800	2714	2593	5.51	5.22	757	173	127	1.03	-.96	9.05
10	560	800	2808	2692	5.40	5.09	754	183	117	.94	-.88	8.86
10	360	900	2416	2242	6.56	6.38	870	134	210	1.78	-1.63	10.92
10	400	900	2546	2382	6.46	6.25	867	147	189	1.57	-1.45	10.72
10	440	900	2668	2511	6.35	6.13	864	159	172	1.40	-1.30	10.53
10	480	900	2782	2632	6.25	6.00	861	170	157	1.26	-1.17	10.34
10	520	900	2888	2745	6.15	5.88	857	182	145	1.14	-1.07	10.15
10	560	900	2989	2851	6.05	5.76	854	192	133	1.05	-.98	9.97
10	360	1000	2552	2348	7.15	6.98	970	138	231	1.93	-1.77	11.93
10	400	1000	2688	2495	7.06	6.86	967	151	209	1.71	-1.58	11.75
10	440	1000	2815	2631	6.96	6.74	964	164	191	1.53	-1.42	11.57
10	480	1000	2934	2759	6.87	6.63	961	176	176	1.39	-1.29	11.39
10	520	1000	3047	2878	6.77	6.51	957	188	162	1.26	-1.18	11.21
10	560	1000	3153	2990	6.68	6.39	954	200	150	1.16	-1.08	11.03
10	480	1500	3559	3227	9.66	9.46	1461	194	263	2.01	-1.85	16.14
10	520	1500	3686	3367	9.60	9.37	1457	209	247	1.85	-1.71	16.01
10	560	1500	3808	3500	9.53	9.28	1454	224	232	1.72	-1.59	15.87

Table 6-13. (Sheet 14)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
15	360	400	1221	1153	2.43	2.15	356	66	77	1.09	-1.03	3.86
15	400	400	1261	1196	2.27	1.97	351	66	65	.94	-.89	3.57
15	440	400	1296	1232	2.13	1.81	346	65	56	.83	-.79	3.32
15	480	400	1325	1263	1.99	1.66	341	64	49	.73	-.70	3.08
15	520	400	1349	1289	1.87	1.53	336	62	43	.66	-.63	2.87
15	560	400	1371	1311	1.76	1.41	332	60	38	.59	-.57	2.67
15	360	500	1451	1362	3.06	2.78	456	78	94	1.23	-1.16	4.94
15	400	500	1506	1421	2.89	2.59	451	80	81	1.07	-1.01	4.62
15	440	500	1553	1471	2.73	2.40	446	80	70	.94	-.89	4.33
15	480	500	1594	1514	2.58	2.23	441	80	61	.83	-.79	4.06
15	520	500	1630	1551	2.44	2.08	436	79	53	.75	-.71	3.81
15	560	500	1661	1584	2.31	1.93	432	78	47	.67	-.65	3.58
15	360	600	1659	1546	3.69	3.42	556	88	112	1.38	-1.29	6.00
15	400	600	1726	1619	3.51	3.21	551	92	97	1.20	-1.13	5.67
15	440	600	1786	1682	3.34	3.01	546	94	84	1.05	-1.00	5.37
15	480	600	1839	1738	3.18	2.83	541	95	74	.94	-.89	5.07
15	520	600	1885	1787	3.03	2.66	536	95	65	.84	-.80	4.80
15	560	600	1927	1831	2.89	2.49	532	95	58	.76	-.73	4.54
15	360	700	1846	1708	4.31	4.04	656	97	131	1.52	-1.42	7.05
15	400	700	1926	1794	4.13	3.83	651	102	113	1.33	-1.24	6.72
15	440	700	1997	1870	3.96	3.63	646	106	99	1.17	-1.11	6.40
15	480	700	2061	1938	3.79	3.43	641	109	88	1.05	-.99	6.10
15	520	700	2118	1999	3.63	3.25	636	111	78	.94	-.89	5.81
15	560	700	2169	2053	3.48	3.08	632	112	69	.85	-.81	5.53
15	360	800	2017	1852	4.92	4.65	756	105	149	1.67	-1.55	8.08
15	400	800	2107	1949	4.74	4.44	751	111	131	1.46	-1.37	7.75
15	440	800	2188	2037	4.56	4.24	746	116	115	1.30	-1.22	7.43
15	480	800	2262	2116	4.39	4.04	741	121	102	1.16	-1.09	7.12
15	520	800	2329	2187	4.23	3.85	736	124	91	1.05	-.99	6.82
15	560	800	2390	2252	4.08	3.67	732	127	82	.95	-.90	6.54
15	360	900	2175	1980	5.51	5.25	856	111	168	1.82	-1.68	9.08
15	400	900	2274	2088	5.33	5.04	851	119	148	1.60	-1.49	8.75
15	440	900	2364	2186	5.16	4.84	846	125	131	1.42	-1.33	8.44
15	480	900	2446	2274	4.99	4.64	841	131	118	1.28	-1.20	8.13
15	520	900	2521	2355	4.83	4.45	836	136	106	1.15	-1.09	7.83
15	560	900	2591	2429	4.68	4.27	832	141	95	1.05	-1.00	7.55
15	360	1000	2322	2095	6.09	5.83	956	116	186	1.96	-1.81	10.06
15	400	1000	2428	2212	5.91	5.63	951	125	165	1.73	-1.61	9.74
15	440	1000	2525	2319	5.74	5.43	946	133	148	1.55	-1.44	9.43
15	480	1000	2615	2416	5.58	5.23	941	140	133	1.39	-1.31	9.12
15	520	1000	2698	2506	5.42	5.05	936	147	120	1.26	-1.19	8.83
15	560	1000	2774	2588	5.27	4.86	932	153	109	1.15	-1.09	8.55
15	360	1500	2943	2531	8.77	8.54	1456	134	276	2.66	-2.44	14.61
15	400	1500	3072	2681	8.62	8.36	1451	146	251	2.39	-2.20	14.33
15	440	1500	3193	2818	8.47	8.19	1446	158	230	2.17	-2.01	14.06
15	480	1500	3306	2946	8.33	8.02	1441	170	211	1.98	-1.84	13.80
15	520	1500	3413	3065	8.19	7.86	1436	181	195	1.82	-1.70	13.54
15	560	1500	3513	3177	8.06	7.69	1432	192	181	1.68	-1.57	13.29
15	480	2000	3853	3294	10.82	10.54	1941	185	286	2.54	-2.35	18.03
15	520	2000	3970	3430	10.70	10.40	1936	199	268	2.36	-2.19	17.81
15	560	2000	4081	3558	10.59	10.25	1932	213	252	2.21	-2.05	17.59

Table 6-13. (Sheet 15)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 3

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	CROSS FT/KNOTS
20	360	700	1612	1452	3.54	3.22	642	72	104	1.61	-1.51	5.70
20	400	700	1664	1510	3.33	2.98	635	73	89	1.41	-1.33	5.32
20	440	700	1709	1559	3.13	2.76	629	73	76	1.24	-1.18	4.97
20	480	700	1747	1600	2.95	2.56	622	73	67	1.11	-1.06	4.65
20	520	700	1780	1636	2.79	2.38	616	71	58	1.00	-.95	4.35
20	560	700	1808	1667	2.63	2.21	609	70	51	.90	-.87	4.08
20	360	800	1785	1596	4.09	3.77	742	80	119	1.74	-1.63	6.63
20	400	800	1846	1664	3.87	3.52	735	82	102	1.53	-1.44	6.23
20	440	800	1900	1723	3.66	3.28	729	84	89	1.35	-1.28	5.86
20	480	800	1946	1774	3.47	3.07	722	84	78	1.21	-1.15	5.51
20	520	800	1987	1819	3.29	2.87	716	83	68	1.09	-1.04	5.19
20	560	800	2023	1858	3.12	2.68	709	83	60	.99	-.95	4.89
20	360	900	1946	1726	4.63	4.32	842	88	135	1.88	-1.75	7.55
20	400	900	2017	1805	4.41	4.06	835	91	117	1.65	-1.55	7.14
20	440	900	2078	1873	4.19	3.81	829	93	102	1.47	-1.38	6.76
20	480	900	2133	1934	3.99	3.59	822	95	89	1.31	-1.24	6.40
20	520	900	2182	1987	3.81	3.37	816	95	79	1.19	-1.13	6.05
20	560	900	2225	2035	3.63	3.17	809	95	70	1.08	-1.03	5.73
20	360	1000	2098	1845	5.17	4.86	942	94	151	2.01	-1.88	8.47
20	400	1000	2176	1933	4.94	4.60	935	98	131	1.78	-1.66	8.05
20	440	1000	2246	2011	4.73	4.35	929	102	115	1.58	-1.49	7.66
20	480	1000	2308	2080	4.52	4.11	922	105	102	1.42	-1.34	7.29
20	520	1000	2364	2142	4.33	3.89	916	106	90	1.29	-1.22	6.93
20	560	1000	2414	2197	4.14	3.68	909	107	80	1.17	-1.12	6.60
20	360	1500	2749	2304	7.76	7.47	1442	117	231	2.67	-2.47	12.85
20	400	1500	2855	2430	7.54	7.22	1435	126	206	2.40	-2.23	12.46
20	440	1500	2953	2544	7.33	6.97	1429	134	186	2.17	-2.02	12.07
20	480	1500	3044	2649	7.13	6.73	1422	142	168	1.97	-1.85	11.70
20	520	1500	3128	2745	6.93	6.50	1416	149	153	1.81	-1.70	11.34
20	560	1500	3206	2833	6.75	6.28	1409	156	140	1.67	-1.57	10.99
20	360	2000	3293	2617	10.17	9.90	1942	129	306	3.27	-3.02	16.93
20	400	2000	3413	2766	9.97	9.66	1935	141	279	2.98	-2.75	16.57
20	440	2000	3525	2903	9.77	9.44	1929	153	256	2.73	-2.53	16.21
20	480	2000	3630	3029	9.59	9.22	1922	164	236	2.51	-2.34	15.87
20	520	2000	3729	3147	9.41	9.00	1916	175	219	2.33	-2.17	15.53
20	560	2000	3822	3257	9.23	8.79	1909	185	203	2.17	-2.02	15.21
20	480	2500	4141	3301	11.90	11.55	2422	177	301	3.01	-2.79	19.79
20	520	2500	4247	3433	11.73	11.35	2416	190	282	2.82	-2.61	19.48
20	560	2500	4348	3557	11.57	11.15	2409	202	265	2.64	-2.46	19.17

Table 6-13. (Sheet 16)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS DRIFT FT/KNOTS	WIND CORRECTION FACTOR CROSS CRAB FT/KNOTS
0	360	100	1345	1342	2.44	2.44	100	340	79	.25	-.24	4.11	.86
0	400	100	1478	1474	2.46	2.46	100	378	72	.21	-.20	4.16	.94
0	440	100	1607	1604	2.49	2.49	100	416	66	.18	-.17	4.20	1.02
0	480	100	1734	1731	2.51	2.51	100	454	61	.15	-.15	4.24	1.10
0	520	100	1859	1856	2.53	2.53	100	491	57	.13	-.13	4.28	1.18
0	560	100	1981	1978	2.56	2.56	100	529	53	.12	-.11	4.31	1.25
0	360	150	1578	1571	3.13	3.13	150	340	99	.34	-.32	5.28	1.39
0	400	150	1725	1719	3.16	3.16	150	378	90	.29	-.27	5.34	1.51
0	440	150	1869	1863	3.20	3.20	150	416	83	.25	-.24	5.40	1.63
0	480	150	2009	2003	3.23	3.23	150	454	78	.22	-.21	5.45	1.75
0	520	150	2145	2139	3.26	3.26	150	491	73	.19	-.18	5.50	1.86
0	560	150	2277	2272	3.29	3.29	150	529	68	.17	-.16	5.55	1.97
0	360	200	1758	1746	3.72	3.72	200	340	118	.44	-.41	6.28	1.91
0	400	200	1916	1905	3.77	3.77	200	378	108	.37	-.35	6.36	2.07
0	440	200	2068	2059	3.81	3.81	200	416	100	.32	-.30	6.43	2.22
0	480	200	2216	2207	3.85	3.85	200	454	93	.28	-.27	6.49	2.37
0	520	200	2359	2351	3.88	3.88	200	491	87	.25	-.24	6.56	2.51
0	560	200	2499	2491	3.92	3.92	200	529	82	.23	-.21	6.62	2.64
0	360	250	1906	1890	4.26	4.26	250	340	135	.53	-.49	7.18	2.41
0	400	250	2072	2056	4.31	4.31	250	378	124	.45	-.42	7.27	2.60
0	440	250	2231	2217	4.35	4.35	250	416	115	.39	-.37	7.35	2.78
0	480	250	2384	2371	4.40	4.40	250	454	108	.35	-.33	7.42	2.96
0	520	250	2533	2520	4.44	4.44	250	491	101	.31	-.29	7.50	3.12
0	560	250	2676	2665	4.48	4.48	250	529	96	.28	-.26	7.56	3.28
0	360	300	2034	2012	4.74	4.74	300	340	151	.62	-.57	8.01	2.89
0	400	300	2205	2184	4.80	4.80	300	378	139	.53	-.50	8.10	3.11
0	440	300	2369	2349	4.85	4.85	300	416	130	.47	-.43	8.19	3.32
0	480	300	2526	2509	4.90	4.90	300	454	121	.41	-.39	8.28	3.52
0	520	300	2679	2662	4.95	4.95	300	491	115	.37	-.35	8.35	3.71
0	560	300	2826	2810	4.99	4.99	300	529	109	.33	-.31	8.43	3.88
0	360	350	2146	2117	5.20	5.20	350	340	167	.71	-.66	8.77	3.36
0	400	350	2321	2295	5.26	5.26	350	378	154	.61	-.57	8.88	3.61
0	440	350	2489	2464	5.32	5.32	350	416	144	.54	-.50	8.97	3.85
0	480	350	2650	2627	5.37	5.37	350	454	135	.48	-.45	9.06	4.06
0	520	350	2805	2783	5.42	5.42	350	491	127	.43	-.40	9.15	4.27
0	560	350	2955	2934	5.47	5.47	350	529	121	.39	-.37	9.23	4.46
0	360	400	2247	2211	5.62	5.62	400	340	182	.80	-.74	9.49	3.82
0	400	400	2425	2392	5.69	5.69	400	378	168	.69	-.64	9.60	4.09
0	440	400	2596	2565	5.75	5.75	400	416	157	.61	-.57	9.71	4.35
0	480	400	2760	2731	5.81	5.81	400	454	148	.54	-.51	9.80	4.59
0	520	400	2918	2890	5.86	5.86	400	491	140	.49	-.46	9.89	4.81
0	560	400	3069	3043	5.91	5.91	400	529	133	.45	-.42	9.98	5.02
0	360	450	2338	2295	6.03	6.03	450	340	197	.89	-.82	10.17	4.27
0	400	450	2520	2480	6.10	6.10	450	378	182	.77	-.71	10.29	4.56
0	440	450	2693	2656	6.16	6.16	450	416	170	.68	-.63	10.40	4.84
0	480	450	2860	2824	6.22	6.22	450	454	160	.61	-.57	10.50	5.09
0	520	450	3019	2985	6.28	6.28	450	491	152	.55	-.51	10.60	5.33
0	560	450	3172	3140	6.33	6.33	450	529	144	.50	-.47	10.69	5.55
0	360	500	2423	2371	6.41	6.41	500	340	211	.98	-.90	10.82	4.71
0	400	500	2607	2559	6.48	6.48	500	378	196	.85	-.79	10.95	5.02
0	440	500	2783	2737	6.55	6.55	500	416	183	.76	-.70	11.06	5.31
0	480	500	2950	2908	6.62	6.62	500	454	173	.68	-.63	11.17	5.58
0	520	500	3111	3071	6.68	6.68	500	491	164	.61	-.57	11.27	5.84
0	560	500	3266	3227	6.73	6.73	500	529	156	.56	-.52	11.36	6.07

Table 6-13. (Sheet 17)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS DRIFT FT/KNOTS	CROSS CRAB FT/KNOTS
0	360	600	2576	2505	7.13	7.13	600	340	238	1.16	-1.06	12.04	5.55
0	400	600	2764	2698	7.21	7.21	600	378	221	1.01	-.93	12.18	5.90
0	440	600	2942	2880	7.29	7.29	600	416	208	.90	-.83	12.30	6.23
0	480	600	3113	3054	7.36	7.36	600	454	196	.81	-.75	12.42	6.53
0	520	600	3276	3221	7.42	7.42	600	491	186	.74	-.68	12.52	6.80
0	560	600	3433	3380	7.48	7.48	600	529	178	.68	-.63	12.62	7.06
0	440	700	3083	3003	7.97	7.97	700	416	231	1.05	-.96	13.46	7.11
0	480	700	3256	3180	8.05	8.05	700	454	219	.95	-.87	13.58	7.43
0	520	700	3421	3348	8.11	8.11	700	491	208	.86	-.80	13.69	7.73
0	560	700	3579	3510	8.17	8.17	700	529	199	.79	-.74	13.80	8.00
0	520	800	3551	3460	8.76	8.76	800	491	229	.99	-.91	14.79	8.61
0	560	800	3710	3623	8.83	8.83	800	529	219	.91	-.84	14.90	8.90

Table 6-13. (Sheet 18)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNOTS
10	360	300	1259	1223	2.42	1.95	241	163	71	.74	-.70	3.68
10	400	300	1313	1279	2.29	1.78	234	166	60	.63	-.60	3.43
10	440	300	1360	1327	2.17	1.62	228	166	52	.54	-.52	3.20
10	480	300	1401	1368	2.06	1.48	221	165	45	.48	-.46	2.98
10	520	300	1436	1404	1.95	1.34	215	163	40	.42	-.41	2.78
10	560	300	1466	1435	1.86	1.22	208	160	35	.38	-.36	2.59
10	360	400	1540	1487	3.19	2.74	341	194	92	.89	-.84	5.00
10	400	400	1616	1565	3.05	2.55	334	202	79	.76	-.72	4.74
10	440	400	1683	1635	2.93	2.38	328	207	69	.66	-.63	4.48
10	480	400	1743	1696	2.80	2.22	321	211	60	.58	-.56	4.24
10	520	400	1796	1751	2.69	2.06	315	213	53	.52	-.50	4.01
10	560	400	1843	1799	2.58	1.91	308	213	47	.46	-.45	3.79
10	360	500	1778	1707	3.93	3.49	441	217	114	1.04	-.98	6.27
10	400	500	1872	1804	3.79	3.31	434	230	99	.90	-.84	6.00
10	440	500	1957	1892	3.67	3.13	428	240	87	.78	-.74	5.74
10	480	500	2033	1971	3.54	2.96	421	249	77	.69	-.66	5.49
10	520	500	2103	2043	3.42	2.80	415	256	68	.62	-.59	5.25
10	560	500	2167	2108	3.31	2.64	408	261	61	.56	-.53	5.02
10	360	600	1984	1891	4.63	4.22	541	234	136	1.20	-1.12	7.47
10	400	600	2092	2004	4.50	4.04	534	251	119	1.04	-.97	7.21
10	440	600	2191	2108	4.38	3.87	528	266	106	.91	-.86	6.96
10	480	600	2282	2202	4.26	3.70	521	280	94	.81	-.76	6.72
10	520	600	2366	2289	4.14	3.53	515	291	84	.72	-.69	6.48
10	560	600	2444	2369	4.03	3.37	508	301	76	.65	-.62	6.24
10	360	700	2166	2050	5.30	4.91	641	248	158	1.35	-1.26	8.62
10	400	700	2286	2176	5.18	4.74	634	268	140	1.18	-1.10	8.37
10	440	700	2396	2292	5.06	4.57	628	287	125	1.04	-.97	8.13
10	480	700	2499	2399	4.95	4.41	621	304	112	.92	-.87	7.90
10	520	700	2594	2498	4.84	4.24	615	319	101	.83	-.78	7.67
10	560	700	2683	2590	4.73	4.08	608	334	92	.75	-.71	7.44
10	360	800	2329	2188	5.94	5.57	741	259	179	1.51	-1.40	9.72
10	400	800	2458	2324	5.83	5.41	734	281	160	1.32	-1.23	9.49
10	440	800	2578	2451	5.72	5.25	728	303	144	1.17	-1.09	9.26
10	480	800	2690	2568	5.61	5.09	721	323	130	1.04	-.98	9.04
10	520	800	2795	2678	5.51	4.94	715	342	118	.94	-.89	8.82
10	560	800	2893	2780	5.40	4.78	708	360	108	.86	-.81	8.60
10	360	900	2478	2309	6.56	6.20	841	268	200	1.66	-1.53	10.77
10	400	900	2614	2454	6.46	6.05	834	292	180	1.46	-1.35	10.55
10	440	900	2742	2590	6.35	5.90	828	316	162	1.30	-1.21	10.34
10	480	900	2861	2716	6.25	5.75	821	338	148	1.16	-1.09	10.13
10	520	900	2973	2834	6.15	5.60	815	360	135	1.05	-.99	9.92
10	560	900	3079	2945	6.05	5.45	808	380	124	.96	-.90	9.71
10	360	1000	2615	2417	7.15	6.81	941	275	221	1.82	-1.67	11.78
10	400	1000	2758	2570	7.06	6.66	934	301	199	1.60	-1.48	11.58
10	440	1000	2891	2713	6.96	6.52	928	326	181	1.43	-1.33	11.38
10	480	1000	3016	2846	6.87	6.38	921	350	166	1.29	-1.20	11.18
10	520	1000	3135	2971	6.77	6.24	915	374	152	1.17	-1.09	10.99
10	560	1000	3246	3089	6.68	6.10	908	397	141	1.07	-1.00	10.79
10	440	1500	3504	3167	9.73	9.35	1428	358	270	2.07	-1.90	16.11
10	480	1500	3646	3324	9.66	9.25	1421	388	251	1.89	-1.74	15.96
10	520	1500	3781	3471	9.60	9.14	1415	417	235	1.74	-1.61	15.81
10	560	1500	3910	3611	9.53	9.03	1408	446	221	1.61	-1.49	15.67

Table 6-13. (Sheet 19)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	RELEASE TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	WIND CORRECTION FACTOR TAIL MILS/KNOTS	WIND CORRECTION FACTOR CROSS FT/KNCTS
15	360	400	1249	1184	2.43	1.87	312	127	69	.98	-.92	3.62
15	400	400	1289	1226	2.27	1.67	302	125	58	.84	-.80	3.32
15	440	400	1323	1261	2.13	1.50	292	122	50	.73	-.70	3.05
15	480	400	1351	1290	1.99	1.34	283	118	43	.64	-.62	2.80
15	520	400	1374	1315	1.87	1.20	273	114	37	.57	-.55	2.58
15	560	400	1394	1335	1.76	1.08	263	109	33	.51	-.49	2.38
15	360	500	1486	1399	3.06	2.50	412	151	85	1.12	-1.05	4.70
15	400	500	1541	1457	2.89	2.28	402	153	72	.96	-.91	4.37
15	440	500	1587	1507	2.73	2.08	392	152	62	.84	-.80	4.06
15	480	500	1628	1549	2.58	1.89	383	150	54	.74	-.71	3.77
15	520	500	1662	1585	2.44	1.72	373	147	47	.66	-.63	3.51
15	560	500	1692	1616	2.31	1.57	363	143	41	.59	-.57	3.26
15	360	600	1698	1588	3.69	3.14	512	173	103	1.26	-1.18	5.77
15	400	600	1767	1662	3.51	2.90	502	177	88	1.09	-1.03	5.42
15	440	600	1827	1726	3.34	2.68	492	180	76	.95	-.90	5.09
15	480	600	1880	1781	3.18	2.48	483	181	66	.84	-.80	4.77
15	520	600	1926	1830	3.03	2.29	473	180	58	.75	-.72	4.48
15	560	600	1966	1872	2.89	2.11	463	178	51	.68	-.65	4.21
15	360	700	1889	1755	4.31	3.77	612	191	121	1.40	-1.31	6.82
15	400	700	1971	1843	4.13	3.53	602	199	104	1.22	-1.15	6.46
15	440	700	2043	1920	3.96	3.30	592	205	91	1.07	-1.01	6.12
15	480	700	2108	1988	3.79	3.08	583	209	79	.95	-.90	5.80
15	520	700	2165	2049	3.63	2.87	573	212	70	.85	-.81	5.49
15	560	700	2217	2103	3.48	2.67	563	212	62	.77	-.73	5.19
15	360	800	2064	1903	4.92	4.39	712	206	139	1.55	-1.44	7.86
15	400	800	2157	2003	4.74	4.14	702	218	121	1.35	-1.26	7.50
15	440	800	2240	2092	4.56	3.91	692	227	106	1.19	-1.12	7.15
15	480	800	2315	2173	4.39	3.68	683	234	94	1.06	-1.00	6.82
15	520	800	2383	2245	4.23	3.47	673	240	83	.95	-.90	6.50
15	560	800	2445	2310	4.08	3.26	663	244	74	.86	-.82	6.19
15	360	900	2225	2034	5.51	4.99	812	219	158	1.69	-1.57	8.86
15	400	900	2327	2146	5.33	4.75	802	233	138	1.48	-1.38	8.51
15	440	900	2420	2246	5.16	4.52	792	246	122	1.31	-1.23	8.17
15	480	900	2504	2337	4.99	4.29	783	256	108	1.17	-1.10	7.83
15	520	900	2582	2420	4.83	4.07	773	265	97	1.05	-1.00	7.51
15	560	900	2652	2495	4.68	3.86	763	272	87	.96	-.91	7.20
15	360	1000	2373	2152	6.09	5.58	912	230	176	1.84	-1.70	9.85
15	400	1000	2483	2273	5.91	5.34	902	247	155	1.61	-1.50	9.50
15	440	1000	2585	2383	5.74	5.11	892	262	138	1.43	-1.34	9.16
15	480	1000	2678	2484	5.58	4.89	883	275	123	1.28	-1.21	8.83
15	520	1000	2763	2576	5.42	4.67	873	287	111	1.16	-1.09	8.52
15	560	1000	2842	2660	5.27	4.46	863	298	100	1.05	-1.00	8.21
15	360	1500	3000	2598	8.77	8.31	1412	266	264	2.53	-2.32	14.42
15	400	1500	3135	2753	8.62	8.11	1402	291	239	2.26	-2.09	14.12
15	440	1500	3262	2896	8.47	7.91	1392	314	218	2.04	-1.89	13.83
15	480	1500	3381	3030	8.33	7.71	1383	337	200	1.86	-1.73	13.54
15	520	1500	3493	3154	8.19	7.51	1373	360	184	1.70	-1.59	13.26
15	560	1500	3599	3271	8.06	7.32	1363	381	170	1.56	-1.47	12.98
15	480	2000	3932	3385	10.82	10.26	1883	369	274	2.41	-2.23	17.79
15	520	2000	4056	3528	10.70	10.09	1873	396	256	2.23	-2.07	17.55
15	560	2000	4173	3663	10.59	9.92	1863	423	240	2.07	-1.93	17.31

Table 6-13. (Sheet 20)

RIPPLE RELEASE TABLES
FOR
MK-82 (SNAKEYE I) AND MK-36 – HIGH DRAG

RELEASE INTERVAL = 140 MILLISECONDS
NUMBER OF RELEASES IN RIPPLE = 5

RELEASE ANGLE DEG	TAS KTS	ALT ABV TGT FT	SLANT RANGE FT	RANGE REL TO CENTER OF PATTERN FT	TIME OF FALL FIRST BOMB SEC	TIME OF FALL LAST BOMB SEC	REL ALT LAST BOMB FT	PATTERN LENGTH FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOTS	TAIL MILS/KNOTS	CROSS FT/KNOTS
20	360	700	1643	1486	3.54	2.90	584	140	95	1.47	-1.39	5.43
20	400	700	1694	1543	3.33	2.64	571	140	80	1.28	-1.21	5.03
20	440	700	1739	1591	3.13	2.40	558	139	69	1.12	-1.07	4.66
20	480	700	1776	1632	2.95	2.18	545	136	59	.99	-.95	4.32
20	520	700	1808	1667	2.79	1.98	532	133	52	.89	-.85	4.01
20	560	700	1835	1697	2.63	1.80	519	128	45	.80	-.77	3.72
20	360	800	1819	1634	4.09	3.45	684	156	110	1.61	-1.51	6.36
20	400	800	1881	1702	3.87	3.17	671	159	93	1.40	-1.32	5.94
20	440	800	1934	1761	3.66	2.91	658	160	80	1.23	-1.17	5.54
20	480	800	1981	1812	3.47	2.67	645	159	70	1.09	-1.04	5.18
20	520	800	2021	1856	3.29	2.45	632	157	61	.98	-.94	4.84
20	560	800	2056	1893	3.12	2.25	619	154	53	.88	-.85	4.52
20	360	900	1984	1768	4.63	4.00	784	171	125	1.74	-1.63	7.28
20	400	900	2055	1847	4.41	3.71	771	176	107	1.52	-1.43	6.85
20	440	900	2117	1917	4.19	3.44	758	180	93	1.34	-1.27	6.44
20	480	900	2172	1977	3.99	3.18	745	181	81	1.20	-1.14	6.05
20	520	900	2221	2030	3.81	2.94	732	181	71	1.07	-1.03	5.69
20	560	900	2263	2076	3.63	2.72	719	179	62	.97	-.93	5.35
20	360	1000	2138	1890	5.17	4.54	884	184	141	1.88	-1.75	8.20
20	400	1000	2218	1980	4.94	4.25	871	192	122	1.64	-1.54	7.76
20	440	1000	2289	2059	4.73	3.97	858	198	106	1.46	-1.37	7.34
20	480	1000	2352	2129	4.52	3.70	845	201	93	1.30	-1.23	6.94
20	520	1000	2408	2191	4.33	3.45	832	203	82	1.17	-1.11	6.56
20	560	1000	2458	2246	4.14	3.22	819	204	72	1.06	-1.01	6.21
20	360	1500	2798	2361	7.76	7.18	1384	231	219	2.53	-2.34	12.61
20	400	1500	2908	2491	7.54	6.89	1371	249	195	2.26	-2.10	12.18
20	440	1500	3010	2609	7.33	6.61	1358	265	175	2.03	-1.90	11.77
20	480	1500	3104	2717	7.13	6.33	1345	280	157	1.84	-1.73	11.36
20	520	1500	3191	2816	6.93	6.07	1332	293	142	1.68	-1.58	10.98
20	560	1500	3272	2908	6.75	5.81	1319	305	129	1.54	-1.45	10.60
20	360	2000	3345	2681	10.17	9.62	1884	258	294	3.13	-2.89	16.70
20	400	2000	3470	2835	9.97	9.36	1871	281	267	2.83	-2.62	16.31
20	440	2000	3587	2978	9.77	9.10	1858	304	244	2.58	-2.40	15.93
20	480	2000	3698	3110	9.59	8.84	1845	325	224	2.37	-2.21	15.55
20	520	2000	3802	3233	9.41	8.59	1832	346	207	2.19	-2.04	15.19
20	560	2000	3900	3348	9.23	8.35	1819	366	191	2.03	-1.90	14.84
20	440	2500	4093	3241	12.07	11.43	2358	327	310	3.09	-2.86	19.84
20	480	2500	4211	3389	11.90	11.19	2345	352	288	2.87	-2.66	19.49
20	520	2500	4323	3527	11.73	10.96	2332	378	269	2.67	-2.48	19.15
20	560	2500	4430	3657	11.57	10.74	2319	402	252	2.50	-2.33	18.83

Table 6-14. (Sheet 1)

LEVEL BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

RELEASE ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CRAB FT/KNOT
400	360	2834	4.70	2862	15	142	.41	-.38	7.9	.1
	400	3148	4.70	3173	14	128	.33	-.31	7.9	.1
	440	3461	4.70	3484	12	117	.27	-.26	7.9	.1
	480	3774	4.70	3795	11	107	.23	-.22	7.9	.1
	520	4086	4.70	4106	11	99	.20	-.19	7.9	.1
	560	4398	4.71	4416	10	92	.17	-.16	7.9	.1
500	360	3188	5.29	3227	17	158	.45	-.42	8.9	.1
	400	3540	5.29	3575	15	142	.36	-.35	8.9	.1
	440	3892	5.29	3924	14	129	.30	-.29	8.9	.1
	480	4244	5.29	4273	13	119	.25	-.24	8.9	.1
	520	4595	5.30	4622	12	110	.22	-.21	8.9	.1
	560	4945	5.30	4970	11	102	.19	-.18	8.9	.1
600	360	3507	5.82	3558	18	171	.49	-.46	9.8	.1
	400	3895	5.83	3941	16	155	.39	-.38	9.8	.1
	440	4282	5.83	4323	15	141	.33	-.31	9.8	.1
	480	4668	5.83	4706	14	129	.28	-.26	9.8	.1
	520	5054	5.83	5089	13	119	.24	-.23	9.8	.1
	560	5438	5.83	5471	12	111	.20	-.20	9.8	.1
700	360	3801	6.32	3865	19	184	.52	-.49	10.7	.1
	400	4220	6.32	4278	18	166	.42	-.40	10.7	.1
	440	4639	6.32	4692	16	151	.35	-.34	10.7	.1
	480	5058	6.32	5106	15	139	.30	-.28	10.7	.1
	520	5476	6.32	5520	14	128	.25	-.24	10.7	.1
	560	5892	6.33	5933	13	119	.22	-.21	10.7	.2
800	360	4074	6.77	4152	21	196	.55	-.52	11.4	.1
	400	4523	6.78	4594	19	177	.45	-.43	11.4	.1
	440	4972	6.78	5036	17	161	.37	-.36	11.4	.1
	480	5420	6.78	5479	16	148	.31	-.30	11.4	.2
	520	5868	6.78	5922	15	137	.27	-.26	11.5	.2
	560	6313	6.79	6364	14	127	.23	-.22	11.5	.2
900	360	4330	7.20	4423	22	207	.58	-.55	12.2	.1
	400	4808	7.21	4891	20	186	.47	-.45	12.2	.1
	440	5284	7.21	5361	18	170	.39	-.38	12.2	.2
	480	5761	7.21	5830	17	156	.33	-.32	12.2	.2
	520	6236	7.22	6301	16	144	.28	-.27	12.2	.2
	560	6709	7.22	6769	15	134	.25	-.24	12.2	.2
1000	360	4572	7.61	4680	23	217	.61	-.58	12.8	.1
	400	5076	7.61	5174	21	196	.50	-.47	12.9	.2
	440	5580	7.62	5668	19	179	.41	-.39	12.9	.2
	480	6082	7.62	6164	18	164	.35	-.33	12.9	.2
	520	6584	7.62	6659	16	152	.30	-.29	12.9	.2
	560	7083	7.63	7153	15	141	.26	-.25	12.9	.2
	400	5332	8.00	5444	22	205	.52	-.49	13.5	.2
	440	5860	8.01	5962	20	187	.43	-.41	13.5	.2
	480	6387	8.01	6481	19	172	.36	-.35	13.5	.2
	520	6914	8.01	7001	17	159	.31	-.30	13.5	.2
	560	7438	8.02	7519	16	148	.27	-.26	13.5	.3
	400	5576	8.37	5704	23	213	.54	-.51	14.1	.2
	440	6128	8.38	6244	21	194	.45	-.43	14.1	.2
	480	6679	8.38	6786	19	179	.38	-.36	14.1	.2
	520	7229	8.39	7328	18	165	.32	-.31	14.2	.3
	560	7777	8.39	7869	17	154	.28	-.27	14.2	.3

Table 6-14. (Sheet 2)

LEVEL BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

RELEASE ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CRAB
	400	5809	8.73	5953	24	221	.56	-.53	14.7	.2
	440	6365	8.73	6516	22	202	.46	-.44	14.7	.2
	480	6959	8.74	7079	20	186	.39	-.38	14.7	.3
	520	7532	8.74	7643	19	172	.34	-.32	14.8	.3
	560	8101	8.75	8205	17	160	.29	-.28	14.8	.3
	440	6631	9.08	6777	22	209	.48	-.46	15.3	.2
	480	7227	9.08	7362	21	192	.41	-.39	15.3	.3
	520	7822	9.09	7947	19	178	.35	-.34	15.3	.3
	560	8414	9.09	8529	18	166	.30	-.29	15.3	.3
	440	6869	9.41	7031	23	216	.50	-.47	15.9	.3
	480	7487	9.41	7635	21	199	.42	-.40	15.9	.3
	520	8103	9.42	8240	20	184	.36	-.35	15.9	.3
	560	8715	9.42	8843	19	171	.31	-.30	15.9	.3
	480	7737	9.73	7901	22	205	.43	-.41	16.4	.3
	520	8373	9.74	8525	21	190	.37	-.36	16.4	.3
	560	9005	9.75	9146	19	177	.32	-.31	16.4	.4
	480	7980	10.04	8159	23	211	.44	-.43	17.0	.3
	520	8636	10.05	8802	21	195	.38	-.37	17.0	.4
	560	9287	10.06	9441	20	182	.33	-.32	17.0	.4
	480	8215	10.35	8410	23	217	.46	-.44	17.5	.3
	520	8890	10.35	9071	22	201	.39	-.38	17.5	.4
	560	9560	10.36	9728	20	187	.34	-.33	17.5	.4
	520	9138	10.65	9333	22	206	.40	-.39	18.0	.4
	560	9826	10.65	10008	21	192	.35	-.34	18.0	.4
	520	9379	10.93	9589	23	211	.41	-.40	18.5	.4
	560	10085	10.94	10281	21	196	.36	-.34	18.5	.5

Table 6-14. (Sheet 3)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
5	1000	360	3710	6.20	3843	24	178	.73	-.70	10.5
		400	4031	6.06	4153	22	157	.61	-.58	10.2
		440	4336	5.93	4449	20	141	.52	-.50	10.0
		480	4626	5.80	4732	18	127	.45	-.43	9.8
		520	4901	5.68	5002	17	115	.39	-.38	9.6
		560	5163	5.56	5259	16	105	.35	-.34	9.4
5	1500	360	4743	7.94	4975	28	220	.84	-.80	13.4
		400	5172	7.80	5385	26	196	.70	-.67	13.2
		440	5584	7.66	5782	24	176	.60	-.57	12.9
		480	5979	7.53	6165	22	160	.51	-.49	12.7
		520	6359	7.40	6533	21	145	.45	-.43	12.5
		560	6722	7.27	6887	19	133	.40	-.38	12.3
5	2000	440	6643	9.14	6938	27	206	.66	-.63	15.4
		480	7129	9.00	7404	25	187	.57	-.55	15.2
		520	7599	8.86	7857	23	171	.50	-.48	15.0
		560	8049	8.73	8293	22	157	.44	-.42	14.7
5	2500	480	8146	10.31	8521	27	211	.61	-.59	17.4
		520	8695	10.17	9047	26	193	.54	-.52	17.2
		560	9223	10.04	9555	24	178	.47	-.46	16.9
5	3000	520	9688	11.36	10142	28	214	.57	-.55	19.2
		560	10286	11.23	10714	26	197	.51	-.49	18.9
5	3500	560	11264	12.32	11795	28	215	.53	-.52	20.8
10	1000	360	3019	5.10	3181	25	147	.88	-.84	8.6
		400	3219	4.89	3371	23	129	.75	-.72	8.3
		440	3400	4.70	3544	22	113	.65	-.62	7.9
		480	3564	4.52	3701	20	101	.57	-.55	7.6
		520	3712	4.34	3845	19	90	.51	-.49	7.3
		560	3847	4.18	3975	18	81	.46	-.44	7.1
10	1500	360	3989	6.75	4262	29	187	.97	-.92	11.4
		400	4280	6.52	4535	27	164	.83	-.79	11.0
		440	4548	6.31	4789	25	145	.72	-.69	10.6
		480	4796	6.10	5025	24	130	.63	-.60	10.3
		520	5024	5.90	5243	22	117	.56	-.54	10.0
		560	5234	5.71	5445	21	106	.50	-.48	9.6
10	2000	360	4822	8.18	5220	33	220	1.04	-.99	13.8
		400	5195	7.94	5567	30	194	.89	-.85	13.4
		440	5543	7.70	5892	28	173	.77	-.74	13.0
		480	5867	7.48	6198	26	155	.67	-.65	12.6
		520	6169	7.26	6485	25	140	.60	-.58	12.3
		560	6449	7.06	6752	24	127	.53	-.52	11.9
10	2500	400	6011	9.20	6510	33	221	.94	-.90	15.5
		440	6431	8.96	6900	31	197	.81	-.78	15.1
		480	6826	8.72	7269	29	177	.71	-.69	14.7
		520	7197	8.49	7618	27	161	.63	-.61	14.3
		560	7542	8.28	7945	26	146	.56	-.55	14.0
10	3000	440	7241	10.11	7838	33	219	.85	-.82	17.1
		480	7702	9.86	8266	31	198	.75	-.72	16.6
		520	8137	9.62	8672	29	179	.66	-.64	16.2
		560	8543	9.40	9054	27	164	.59	-.57	15.9
10	3500	480	8513	10.92	9204	33	216	.78	-.75	18.4
		520	9008	10.68	9664	31	197	.69	-.67	18.0
		560	9471	10.45	10097	29	180	.62	-.60	17.6

Table 6-14. (Sheet 4)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
10	4000	520	9823	11.67	10606	32	213	.71	-.69	19.7
		560	10339	11.44	11086	31	195	.64	-.62	19.3
10	4500	560	11159	12.37	12032	32	209	.66	-.64	20.9
15	1000	360	2479	4.27	2673	28	124	1.04	-.99	7.2
		400	2604	4.04	2789	26	107	.90	-.86	6.8
		440	2713	3.82	2891	24	93	.80	-.76	6.5
		480	2807	3.62	2980	23	82	.71	-.68	6.1
		520	2891	3.45	3059	22	73	.64	-.62	5.8
		560	2963	3.28	3128	22	65	.58	-.56	5.5
15	1500	360	3363	5.81	3683	31	159	1.12	-1.07	9.8
		400	3560	5.53	3863	29	139	.97	-.92	9.3
		440	3735	5.28	4025	28	122	.85	-.81	8.9
		480	3891	5.04	4170	26	108	.75	-.72	8.5
		520	4030	4.82	4300	25	96	.68	-.65	8.1
		560	4154	4.61	4416	24	86	.61	-.59	7.8
15	2000	360	4138	7.16	4596	34	190	1.18	-1.12	12.1
		400	4403	6.86	4836	32	166	1.02	-.97	11.6
		440	4641	6.57	5054	30	146	.89	-.86	11.1
		480	4857	6.31	5253	29	130	.79	-.76	10.6
		520	5052	6.06	5433	27	116	.71	-.68	10.2
		560	5227	5.82	5596	26	105	.64	-.62	9.8
15	2500	360	4834	8.38	5442	37	217	1.23	-1.17	14.1
		400	5163	8.06	5736	35	190	1.06	-1.02	13.6
		440	5463	7.75	6008	32	168	.93	-.89	13.1
		480	5736	7.46	6257	31	150	.82	-.79	12.6
		520	5985	7.19	6486	29	135	.74	-.71	12.1
		560	6211	6.94	6695	28	122	.67	-.65	11.7
15	3000	360	5472	9.50	6240	39	241	1.27	-1.21	16.0
		400	5861	9.16	6585	37	212	1.10	-1.05	15.5
		440	6219	8.84	6905	34	189	.96	-.92	14.9
		480	6548	8.54	7202	33	169	.85	-.82	14.4
		520	6849	8.25	7478	31	152	.76	-.74	13.9
		560	7124	7.98	7730	30	138	.69	-.67	13.5
15	3500	400	6511	10.19	7392	39	232	1.13	-1.08	17.2
		440	6924	9.86	7758	36	207	.99	-.95	16.6
		480	7305	9.54	8100	34	186	.88	-.85	16.1
		520	7658	9.24	8420	33	168	.79	-.76	15.6
		560	7979	8.96	8713	31	152	.71	-.69	15.1
15	4000	440	7586	10.82	8576	38	224	1.01	-.98	18.3
		480	8018	10.49	8960	36	202	.90	-.87	17.7
		520	8420	10.18	9321	34	182	.81	-.78	17.2
		560	8786	9.89	9654	33	166	.73	-.71	16.7
15	4500	480	8693	11.39	9789	37	217	.92	-.89	19.2
		520	9142	11.07	10189	35	196	.83	-.80	18.7
		560	9552	10.78	10559	34	179	.75	-.72	18.2
15	5000	480	9336	12.25	10590	39	231	.94	-.91	20.7
		520	9830	11.92	11028	37	209	.84	-.82	20.1
		560	10281	11.63	11433	35	191	.76	-.74	19.6
15	5500	520	10488	12.74	11842	38	222	.86	-.83	21.5
		560	10979	12.44	12280	36	203	.78	-.76	21.0

Table 6-14. (Sheet 5)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
15	6000	560	11649	13.23	13103	37	214	.79	-.77	22.3
15	6500	560	12293	14.00	13906	38	225	.81	-.78	23.6
20	1000	360	2057	3.64	2287	31	106	1.22	-1.16	6.2
		400	2137	3.41	2360	29	91	1.07	-1.02	5.8
		440	2205	3.19	2422	28	79	.95	-.91	5.4
		480	2263	3.00	2474	27	69	.85	-.82	5.1
		520	2312	2.83	2519	26	61	.77	-.75	4.8
		560	2354	2.68	2558	25	55	.71	-.69	4.5
20	1500	360	2849	5.06	3220	34	137	1.27	-1.22	8.5
		400	2984	4.77	3340	32	119	1.11	-1.07	8.0
		440	3100	4.50	3444	31	103	.99	-.95	7.6
		480	3201	4.26	3535	29	91	.88	-.85	7.2
		520	3288	4.04	3614	28	81	.80	-.77	6.8
		560	3363	3.84	3683	27	72	.73	-.71	6.5
20	2000	360	3555	6.33	4079	37	165	1.32	-1.26	10.7
		400	3744	5.99	4245	35	143	1.15	-1.11	10.1
		440	3910	5.69	4392	33	125	1.02	-.98	9.6
		480	4055	5.41	4522	31	110	.91	-.88	9.1
		520	4183	5.15	4636	30	98	.83	-.80	8.7
		560	4295	4.91	4738	29	88	.75	-.73	8.3
20	2500	360	4198	7.48	4886	39	189	1.36	-1.30	12.6
		400	4440	7.12	5096	37	165	1.19	-1.14	12.0
		440	4655	6.79	5284	35	145	1.05	-1.01	11.5
		480	4845	6.48	5452	33	128	.94	-.91	10.9
		520	5014	6.19	5603	32	115	.85	-.82	10.4
		560	5164	5.92	5737	31	103	.77	-.75	10.0
20	3000	360	4792	8.55	5654	41	212	1.39	-1.33	14.4
		400	5085	8.17	5904	39	185	1.22	-1.17	13.8
		440	5348	7.81	6132	37	163	1.08	-1.04	13.2
		480	5583	7.48	6338	35	145	.96	-.93	12.6
		520	5793	7.16	6524	33	130	.87	-.84	12.1
		560	5980	6.87	6690	32	117	.79	-.77	11.6
20	3500	360	5346	9.56	6390	43	232	1.42	-1.36	16.1
		400	5689	9.15	6679	41	203	1.24	-1.19	15.4
		440	5998	8.78	6945	38	180	1.10	-1.06	14.8
		480	6277	8.42	7187	37	160	.98	-.95	14.2
		520	6529	8.09	7408	35	144	.89	-.86	13.6
		560	6753	7.78	7606	34	130	.81	-.78	13.1
20	4000	360	5868	10.50	7101	45	250	1.44	-1.38	17.7
		400	6258	10.08	7427	42	221	1.26	-1.21	17.0
		440	6613	9.69	7729	40	196	1.12	-1.08	16.4
		480	6935	9.32	8006	38	175	1.00	-.97	15.7
		520	7227	8.97	8260	36	157	.90	-.88	15.1
		560	7488	8.65	8489	35	142	.82	-.80	14.6
20	4500	400	6799	10.97	8153	44	236	1.28	-1.23	18.5
		440	7197	10.56	8488	41	211	1.14	-1.10	17.8
		480	7561	10.17	8799	39	189	1.02	-.98	17.2
		520	7892	9.81	9085	38	170	.92	-.89	16.6
		560	8190	9.48	9345	36	154	.84	-.81	16.0
20	5000	440	7755	11.39	9227	43	224	1.15	-1.11	19.2
		480	8159	11.00	9570	41	201	1.03	-1.00	18.6
		520	8530	10.62	9887	39	182	.93	-.90	17.9
		560	8862	10.28	10175	37	165	.85	-.83	17.4

Table 6-14. (Sheet 6)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
20	5500	440	8289	12.20	9948	44	237	1.17	-1.13	20.6
		480	8734	11.79	10321	42	214	1.05	-1.01	19.9
		520	9142	11.40	10669	40	193	.95	-.92	19.2
		560	9508	11.06	10984	38	176	.87	-.84	18.7
20	6000	480	9287	12.55	11056	43	225	1.06	-1.02	21.2
		520	9731	12.15	11432	41	204	.96	-.93	20.5
		560	10130	11.81	11774	39	186	.88	-.85	19.9
20	6500	480	9820	13.29	11776	44	236	1.07	-1.04	22.4
		520	10301	12.89	12180	42	214	.97	-.94	21.8
		560	10731	12.54	12547	40	196	.89	-.86	21.2
20	7000	520	10851	13.60	12913	43	224	.98	-.95	23.0
		560	11313	13.25	13304	41	206	.90	-.87	22.4
20	7500	520	11385	14.29	13634	44	234	.99	-.96	24.1
		560	11877	13.94	14047	42	215	.91	-.88	23.5
20	8000	560	12424	14.62	14777	43	223	.92	-.89	24.7
20	8500	560	12955	15.28	15495	44	232	.93	-.90	25.8
25	1000	360	1724	3.17	1993	34	92	1.39	-1.33	5.4
		400	1778	2.94	2040	33	79	1.23	-1.18	5.0
		440	1822	2.74	2079	32	68	1.10	-1.06	4.6
25	1500	360	2426	4.47	2852	37	120	1.43	-1.37	7.5
		400	2520	4.18	2933	35	103	1.26	-1.21	7.0
		440	2599	3.91	3001	34	89	1.13	-1.09	6.6
		480	2666	3.68	3059	33	78	1.02	-.98	6.2
		520	2723	3.47	3109	32	69	.93	-.90	5.9
		560	2771	3.28	3151	31	62	.85	-.83	5.5
25	2000	360	3061	5.65	3657	39	144	1.47	-1.40	9.5
		400	3198	5.31	3772	38	124	1.29	-1.24	9.0
		440	3314	5.00	3871	36	108	1.15	-1.11	8.4
		480	3414	4.72	3957	35	95	1.04	-1.01	8.0
		520	3500	4.47	4032	34	84	.95	-.92	7.5
		560	3575	4.24	4096	33	75	.87	-.84	7.2
25	2500	360	3647	6.74	4421	42	166	1.49	-1.43	11.4
		400	3826	6.36	4570	40	144	1.32	-1.27	10.7
		440	3981	6.02	4701	38	126	1.18	-1.13	10.2
		480	4115	5.70	4815	36	111	1.06	-1.02	9.6
		520	4232	5.41	4916	35	98	.96	-.93	9.1
		560	4334	5.15	5004	34	88	.88	-.86	8.7
25	3000	360	4191	7.76	5154	43	186	1.52	-1.45	13.1
		400	4413	7.35	5336	41	162	1.34	-1.29	12.4
		440	4607	6.98	5498	39	142	1.19	-1.15	11.8
		480	4777	6.63	5640	38	126	1.08	-1.04	11.2
		520	4926	6.31	5767	37	112	.98	-.95	10.6
		560	5056	6.02	5879	35	100	.90	-.87	10.2
25	3500	360	4703	8.72	5863	45	205	1.53	-1.47	14.7
		400	4967	8.29	6076	43	179	1.36	-1.31	14.0
		440	5199	7.88	6267	41	157	1.21	-1.17	13.3
		480	5404	7.51	6438	39	139	1.09	-1.06	12.7
		520	5585	7.17	6591	38	124	.99	-.96	12.1
		560	5745	6.86	6727	37	112	.91	-.88	11.6

Table 6-14. (Sheet 7)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
25	4000	360	5187	9.63	6550	47	222	1.55	-1.49	16.3
		400	5491	9.18	6794	44	194	1.37	-1.32	15.5
		440	5762	8.75	7014	42	171	1.23	-1.18	14.8
		480	6002	8.36	7213	41	152	1.11	-1.07	14.1
		520	6216	7.99	7392	39	136	1.01	-.97	13.5
		560	6404	7.66	7551	38	123	.92	-.90	12.9
25	4500	360	5647	10.50	7221	48	237	1.56	-1.50	17.7
		400	5991	10.02	7493	46	209	1.38	-1.33	16.9
		440	6299	9.58	7741	44	185	1.24	-1.20	16.2
		480	6575	9.17	7967	42	165	1.12	-1.08	15.5
		520	6821	8.78	8172	40	148	1.02	-.99	14.8
		560	7038	8.44	8354	39	133	.93	-.91	14.2
25	5000	360	6086	11.33	7877	49	252	1.57	-1.52	19.1
		400	6470	10.84	8177	47	222	1.40	-1.35	18.3
		440	6815	10.38	8452	45	197	1.25	-1.21	17.5
		480	7124	9.95	8704	43	176	1.13	-1.09	16.8
		520	7403	9.55	8933	41	158	1.03	-1.00	16.1
		560	7648	9.19	9138	40	143	.94	-.92	15.5
25	5500	400	6929	11.62	8847	48	235	1.41	-1.36	19.6
		440	7310	11.15	9148	46	209	1.26	-1.22	18.8
		480	7654	10.70	9425	44	187	1.14	-1.10	18.1
		520	7964	10.29	9679	42	169	1.04	-1.01	17.4
		560	8238	9.92	9905	41	153	.95	-.93	16.7
25	6000	400	7372	12.38	9505	49	248	1.41	-1.37	20.9
		440	7788	11.89	9831	47	221	1.27	-1.23	20.1
		480	8165	11.43	10133	45	198	1.15	-1.11	19.3
		520	8507	11.01	10410	43	179	1.05	-1.02	18.6
		560	8808	10.63	10657	42	162	.96	-.94	17.9
25	6500	440	8250	12.61	10503	48	232	1.28	-1.24	21.3
		480	8660	12.14	10828	46	208	1.16	-1.12	20.5
		520	9032	11.70	11128	44	188	1.05	-1.02	19.8
		560	9360	11.33	11396	43	171	.97	-.95	19.1
25	7000	440	8697	13.31	11164	49	242	1.28	-1.24	22.5
		480	9140	12.83	11513	47	218	1.16	-1.13	21.7
		520	9542	12.39	11834	45	197	1.06	-1.03	20.9
		560	9897	12.00	12122	43	180	.98	-.95	20.3
25	7500	480	9606	13.50	12187	48	227	1.17	-1.14	22.8
		520	10037	13.05	12530	46	206	1.07	-1.04	22.0
		560	10418	12.66	12837	44	188	.99	-.96	21.4
25	8000	480	10059	14.15	12852	48	236	1.18	-1.14	23.9
		520	10519	13.70	13216	47	214	1.08	-1.05	23.1
		560	10925	13.31	13541	45	196	.99	-.97	22.5
25	8500	520	10989	14.34	13892	47	223	1.08	-1.05	24.2
		560	11419	13.95	14235	46	204	1.00	-.98	23.5
25	9000	520	11446	14.96	14561	48	230	1.09	-1.06	25.2
		560	11900	14.57	14920	46	212	1.01	-.98	24.6
25	9500	520	11893	15.57	15222	49	238	1.09	-1.06	26.3
		560	12370	15.18	15597	47	219	1.01	-.99	25.6
25	10000	560	12830	15.78	16267	48	226	1.02	-.99	26.6

Table 6-14. (Sheet 8)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
30	1000	360	1457	2.81	1767	38	81	1.57	-1.50	4.7
30	1500	360	2074	4.00	2559	40	105	1.59	-1.53	6.8
		400	2141	3.72	2614	39	90	1.41	-1.36	6.3
		440	2196	3.46	2660	38	78	1.27	-1.23	5.8
		480	2242	3.24	2698	37	68	1.15	-1.12	5.5
30	2000	360	2640	5.11	3312	43	127	1.61	-1.55	8.6
		400	2740	4.77	3393	41	109	1.43	-1.38	8.0
		440	2824	4.46	3461	39	94	1.29	-1.24	7.5
		480	2895	4.19	3518	38	83	1.17	-1.13	7.1
		520	2954	3.95	3568	37	73	1.07	-1.04	6.7
		560	3005	3.73	3610	37	65	.98	-.96	6.3
30	2500	360	3167	6.13	4035	44	146	1.63	-1.56	10.4
		400	3301	5.75	4141	43	126	1.45	-1.39	9.7
		440	3415	5.40	4232	41	110	1.30	-1.26	9.1
		480	3512	5.09	4311	40	96	1.18	-1.14	8.6
		520	3595	4.81	4379	39	85	1.08	-1.05	8.1
		560	3666	4.56	4437	38	76	.99	-.97	7.7
30	3000	360	3661	7.10	4734	46	164	1.64	-1.58	12.0
		400	3830	6.68	4865	44	142	1.46	-1.41	11.3
		440	3975	6.30	4980	43	124	1.31	-1.27	10.6
		480	4099	5.95	5080	41	109	1.19	-1.15	10.0
		520	4206	5.64	5167	40	97	1.09	-1.06	9.5
		560	4299	5.36	5242	39	87	1.00	-.98	9.0
30	3500	360	4128	8.02	5412	48	181	1.65	-1.59	13.5
		400	4332	7.57	5569	46	157	1.47	-1.42	12.8
		440	4507	7.16	5707	44	138	1.32	-1.28	12.1
		480	4660	6.78	5828	42	122	1.20	-1.16	11.4
		520	4793	6.43	5935	41	108	1.10	-1.07	10.9
		560	4907	6.13	6028	40	97	1.01	-.99	10.3
30	4000	360	4572	8.89	6075	49	196	1.66	-1.60	15.0
		400	4810	8.41	6256	47	171	1.48	-1.43	14.2
		440	5017	7.98	6416	45	150	1.33	-1.29	13.5
		480	5198	7.57	6559	43	133	1.21	-1.17	12.8
		520	5356	7.20	6685	42	119	1.11	-1.08	12.2
		560	5494	6.87	6796	41	107	1.02	-.99	11.6
30	4500	360	4995	9.73	6723	50	211	1.67	-1.61	16.4
		400	5267	9.23	6928	48	184	1.49	-1.44	15.6
		440	5506	8.76	7111	46	163	1.34	-1.30	14.8
		480	5715	8.34	7274	45	144	1.22	-1.18	14.1
		520	5900	7.95	7420	43	129	1.11	-1.08	13.4
		560	6060	7.60	7548	42	116	1.03	-1.00	12.8
30	5000	360	5401	10.53	7360	52	224	1.67	-1.61	17.8
		400	5706	10.01	7587	49	197	1.50	-1.45	16.9
		440	5976	9.53	7792	47	174	1.35	-1.31	16.1
		480	6214	9.08	7976	46	155	1.23	-1.19	15.3
		520	6425	8.67	8141	44	138	1.12	-1.09	14.6
		560	6608	8.30	8287	43	125	1.04	-1.01	14.0
30	5500	360	5791	11.30	7986	53	237	1.68	-1.62	19.1
		400	6129	10.76	8235	50	209	1.50	-1.45	18.2
		440	6430	10.26	8461	48	185	1.35	-1.31	17.3
		480	6697	9.80	8666	47	165	1.23	-1.20	16.5
		520	6933	9.37	8850	45	148	1.13	-1.10	15.8
		560	7140	8.99	9013	44	133	1.04	-1.02	15.2

Table 6-14. (Sheet 9)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
30	6000	360	6166	12.05	8604	54	249	1.68	-1.62	20.3
		400	6538	11.49	8874	51	220	1.50	-1.46	19.4
		440	6869	10.97	9120	49	195	1.36	-1.32	18.5
		480	7164	10.49	9345	47	174	1.24	-1.20	17.7
		520	7427	10.05	9548	46	157	1.13	-1.10	17.0
		560	7656	9.66	9727	45	142	1.05	-1.02	16.3
30	6500	360	6530	12.77	9213	55	260	1.68	-1.63	21.6
		400	6933	12.20	9503	52	230	1.51	-1.46	20.6
		440	7294	11.67	9770	50	205	1.36	-1.32	19.7
		480	7617	11.17	10014	48	183	1.24	-1.21	18.9
		520	7906	10.72	10235	47	165	1.14	-1.11	18.1
		560	8157	10.32	10430	45	150	1.06	-1.03	17.4
30	7000	400	7316	12.89	10126	53	240	1.51	-1.46	21.8
		440	7707	12.34	10411	51	214	1.37	-1.33	20.8
		480	8058	11.83	10674	49	192	1.25	-1.21	20.0
		520	8372	11.37	10913	47	173	1.14	-1.11	19.2
		560	8646	10.96	11124	46	158	1.06	-1.03	18.5
30	7500	400	7688	13.56	10741	54	250	1.51	-1.47	22.9
		440	8108	13.00	11045	52	223	1.37	-1.33	21.9
		480	8487	12.48	11326	50	201	1.25	-1.22	21.1
		520	8826	12.00	11582	48	181	1.15	-1.12	20.3
		560	9121	11.59	11809	47	165	1.07	-1.04	19.6
30	8000	440	8499	13.64	11672	52	232	1.37	-1.33	23.0
		480	8905	13.11	11971	51	209	1.25	-1.22	22.1
		520	9269	12.63	12244	49	189	1.15	-1.12	21.3
		560	9586	12.21	12485	48	172	1.07	-1.05	20.6
30	8500	440	8881	14.26	12293	53	240	1.38	-1.34	24.1
		480	9313	13.72	12609	51	217	1.26	-1.22	23.2
		520	9701	13.24	12898	50	196	1.16	-1.13	22.3
		560	10039	12.82	13154	48	179	1.08	-1.05	21.6
30	9000	440	9253	14.88	12908	54	248	1.38	-1.34	25.1
		480	9711	14.33	13240	52	224	1.26	-1.23	24.2
		520	10123	13.84	13545	50	204	1.16	-1.13	23.4
		560	10482	13.41	13815	49	186	1.08	-1.06	22.6
30	9500	480	10100	14.92	13866	53	232	1.26	-1.23	25.2
		520	10536	14.43	14186	51	211	1.17	-1.14	24.4
		560	10915	14.00	14470	49	193	1.09	-1.06	23.6
30	10000	480	10481	15.51	14486	53	239	1.26	-1.23	26.2
		520	10940	15.01	14821	51	217	1.17	-1.14	25.3
		560	11338	14.58	15118	50	200	1.09	-1.06	24.6
35	1500	360	1777	3.63	2326	44	93	1.75	-1.68	6.1
		400	1826	3.36	2363	43	79	1.56	-1.50	5.7
35	2000	360	2278	4.66	3032	46	112	1.76	-1.69	7.9
		400	2353	4.33	3088	44	96	1.57	-1.51	7.3
		440	2414	4.04	3135	43	83	1.42	-1.37	6.8
		480	2465	3.78	3174	42	73	1.29	-1.25	6.4
35	2500	360	2748	5.63	3715	48	129	1.76	-1.70	9.5
		400	2850	5.25	3791	46	111	1.58	-1.52	8.9
		440	2934	4.91	3855	45	96	1.42	-1.38	8.3
		480	3005	4.61	3909	43	84	1.30	-1.26	7.8
		520	3066	4.34	3956	42	75	1.19	-1.16	7.3
		560	3117	4.10	3996	42	67	1.10	-1.07	6.9

Table 6-14. (Sheet 10)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
35	3000	360	3192	6.55	4380	49	145	1.77	-1.70	11.1
		400	3321	6.13	4476	47	125	1.58	-1.53	10.3
		440	3430	5.75	4557	46	109	1.43	-1.39	9.7
		480	3523	5.41	4627	45	96	1.30	-1.27	9.1
		520	3602	5.11	4688	44	85	1.20	-1.16	8.6
		560	3669	4.83	4740	43	76	1.11	-1.08	8.2
35	3500	360	3613	7.43	5030	51	160	1.77	-1.71	12.5
		400	3771	6.97	5145	49	138	1.59	-1.53	11.8
		440	3906	6.56	5244	47	121	1.44	-1.39	11.1
		480	4020	6.19	5330	46	107	1.31	-1.27	10.4
		520	4119	5.85	5405	45	95	1.20	-1.17	9.9
		560	4203	5.55	5470	44	85	1.11	-1.08	9.4
35	4000	360	4015	8.26	5668	52	174	1.77	-1.71	13.9
		400	4202	7.78	5801	50	151	1.59	-1.54	13.1
		440	4362	7.34	5918	48	132	1.44	-1.40	12.4
		480	4500	6.93	6021	47	117	1.31	-1.28	11.7
		520	4619	6.57	6110	46	104	1.21	-1.17	11.1
		560	4721	6.24	6188	44	93	1.12	-1.09	10.5
35	4500	360	4400	9.07	6294	53	187	1.77	-1.71	15.3
		400	4616	8.55	6446	51	163	1.59	-1.54	14.4
		440	4802	8.09	6581	49	143	1.44	-1.40	13.6
		480	4963	7.66	6699	48	127	1.32	-1.28	12.9
		520	5103	7.27	6803	46	113	1.21	-1.18	12.3
		560	5223	6.92	6894	45	101	1.12	-1.09	11.7
35	5000	360	4771	9.84	6911	54	199	1.77	-1.71	16.6
		400	5014	9.30	7081	52	174	1.59	-1.54	15.7
		440	5226	8.81	7233	50	153	1.45	-1.40	14.9
		480	5411	8.36	7367	49	136	1.32	-1.28	14.1
		520	5572	7.95	7486	47	121	1.22	-1.18	13.4
		560	5710	7.58	7590	46	109	1.13	-1.10	12.8
35	5500	360	5127	10.59	7519	55	210	1.77	-1.71	17.9
		400	5399	10.03	7707	53	185	1.59	-1.55	16.9
		440	5637	9.52	7876	51	163	1.45	-1.41	16.1
		480	5845	9.04	8026	49	145	1.32	-1.29	15.3
		520	6028	8.61	8160	48	130	1.22	-1.19	14.5
		560	6185	8.23	8277	47	117	1.13	-1.10	13.9
35	6000	360	5472	11.31	8120	56	221	1.77	-1.71	19.1
		400	5772	10.73	8326	54	195	1.59	-1.55	18.1
		440	6036	10.20	8511	52	172	1.45	-1.41	17.2
		480	6268	9.71	8677	50	153	1.33	-1.29	16.4
		520	6471	9.26	8825	49	137	1.22	-1.19	15.6
		560	6647	8.87	8955	48	124	1.14	-1.11	15.0
35	6500	360	5806	12.01	8715	57	232	1.77	-1.71	20.3
		400	6134	11.42	8937	55	204	1.59	-1.55	19.3
		440	6423	10.87	9138	53	181	1.45	-1.41	18.3
		480	6678	10.36	9319	51	162	1.33	-1.29	17.5
		520	6904	9.89	9482	50	145	1.22	-1.19	16.7
		560	7098	9.49	9624	48	131	1.14	-1.11	16.0
35	7000	360	6129	12.70	9304	58	241	1.76	-1.71	21.4
		400	6485	12.08	9542	55	213	1.59	-1.55	20.4
		440	6800	11.52	9759	53	190	1.45	-1.41	19.4
		480	7079	10.99	9955	52	170	1.33	-1.29	18.5
		520	7325	10.51	10132	50	152	1.23	-1.20	17.7
		560	7538	10.10	10287	49	138	1.14	-1.12	17.0

Table 6-14. (Sheet 11)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
35	7500	360	6444	13.36	9888	58	251	1.76	-1.71	22.5
		400	6826	12.73	10142	56	222	1.59	-1.55	21.5
		440	7167	12.15	10374	54	198	1.45	-1.41	20.5
		480	7469	11.61	10585	52	177	1.33	-1.30	19.6
		520	7736	11.12	10775	51	160	1.23	-1.20	18.8
		560	7967	10.70	10942	50	145	1.15	-1.12	18.1
35	8000	360	6750	14.01	10467	59	260	1.75	-1.70	23.6
		400	7159	13.37	10736	57	231	1.59	-1.55	22.6
		440	7525	12.77	10983	55	206	1.45	-1.41	21.6
		480	7850	12.22	11208	53	185	1.33	-1.30	20.6
		520	8138	11.72	11412	52	166	1.23	-1.20	19.8
		560	8387	11.29	11591	50	151	1.15	-1.12	19.1
35	8500	400	7484	13.98	11325	57	239	1.59	-1.54	23.6
		440	7874	13.37	11587	55	213	1.45	-1.41	22.6
		480	8223	12.81	11826	54	192	1.33	-1.30	21.6
		520	8532	12.31	12043	52	173	1.23	-1.20	20.8
		560	8798	11.87	12234	51	158	1.15	-1.13	20.0
35	9000	400	7801	14.59	11910	58	246	1.59	-1.54	24.6
		440	8216	13.97	12186	56	221	1.45	-1.41	23.6
		480	8587	13.40	12439	54	199	1.33	-1.30	22.6
		520	8916	12.88	12669	53	180	1.24	-1.21	21.7
		560	9201	12.44	12871	52	164	1.16	-1.13	21.0
35	9500	400	8111	15.18	12492	59	254	1.58	-1.54	25.6
		440	8550	14.55	12781	57	228	1.45	-1.41	24.6
		480	8944	13.97	13048	55	205	1.33	-1.30	23.6
		520	9293	13.45	13290	53	186	1.24	-1.21	22.7
		560	9595	13.00	13502	52	170	1.16	-1.13	21.9
35	10000	440	8877	15.12	13372	57	234	1.45	-1.41	25.5
		480	9293	14.54	13651	55	212	1.33	-1.30	24.5
		520	9662	14.01	13906	54	192	1.24	-1.21	23.6
		560	9981	13.56	14129	53	176	1.16	-1.13	22.9
40	1500	360	1523	3.34	2138	48	82	1.90	-1.83	5.6
40	2000	360	1963	4.31	2803	50	99	1.90	-1.83	7.3
		400	2020	3.98	2842	48	84	1.70	-1.64	6.7
		440	2066	3.70	2875	47	73	1.54	-1.49	6.2
40	2500	360	2379	5.22	3451	51	114	1.89	-1.83	8.8
		400	2456	4.85	3505	50	98	1.70	-1.65	8.2
		440	2521	4.52	3550	48	85	1.54	-1.50	7.6
		480	2574	4.23	3588	47	74	1.41	-1.37	7.1
40	3000	360	2773	6.10	4085	52	128	1.89	-1.83	10.3
		400	2873	5.68	4154	51	110	1.70	-1.65	9.6
		440	2957	5.31	4212	49	96	1.54	-1.50	9.0
		480	3027	4.98	4262	48	84	1.41	-1.37	8.4
		520	3086	4.68	4304	47	74	1.30	-1.27	7.9
		560	3136	4.42	4340	47	66	1.21	-1.18	7.5
40	3500	360	3150	6.93	4708	54	141	1.88	-1.82	11.7
		400	3273	6.48	4792	52	122	1.70	-1.65	10.9
		440	3377	6.07	4863	51	106	1.54	-1.50	10.2
		480	3464	5.70	4925	49	94	1.41	-1.37	9.6
		520	3539	5.38	4977	48	83	1.30	-1.27	9.1
		560	3602	5.09	5022	47	74	1.21	-1.18	8.6

Table 6-14. (Sheet 12)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
40	4000	360	3510	7.74	5322	55	154	1.88	-1.82	13.1
		400	3657	7.25	5420	53	133	1.70	-1.65	12.2
		440	3782	6.81	5505	51	116	1.54	-1.50	11.5
		480	3888	6.41	5578	50	103	1.41	-1.38	10.8
		520	3978	6.05	5642	49	91	1.30	-1.27	10.2
		560	4055	5.74	5696	48	81	1.21	-1.18	9.7
40	4500	360	3857	8.51	5926	56	165	1.87	-1.82	14.4
		400	4028	7.99	6039	54	144	1.69	-1.64	13.5
		440	4173	7.52	6137	52	126	1.54	-1.50	12.7
		480	4298	7.10	6223	51	111	1.41	-1.38	12.0
		520	4405	6.71	6297	50	99	1.30	-1.27	11.3
		560	4497	6.37	6362	49	89	1.21	-1.18	10.8
40	5000	360	4190	9.26	6524	57	176	1.87	-1.81	15.6
		400	4386	8.71	6651	55	154	1.69	-1.64	14.7
		440	4553	8.22	6762	53	135	1.54	-1.50	13.9
		480	4697	7.76	6860	52	119	1.41	-1.38	13.1
		520	4821	7.36	6946	51	106	1.31	-1.27	12.4
		560	4927	7.00	7020	50	95	1.22	-1.19	11.8
40	5500	360	4513	9.98	7115	58	186	1.86	-1.81	16.8
		400	4732	9.41	7256	56	163	1.69	-1.64	15.9
		440	4921	8.89	7380	54	144	1.54	-1.50	15.0
		480	5084	8.41	7490	53	127	1.41	-1.38	14.2
		520	5226	7.99	7587	51	114	1.31	-1.27	13.5
		560	5347	7.61	7671	50	102	1.22	-1.19	12.8
40	6000	360	4825	10.68	7700	58	196	1.86	-1.80	18.0
		400	5068	10.09	7854	56	172	1.68	-1.64	17.0
		440	5279	9.55	7992	55	152	1.54	-1.50	16.1
		480	5462	9.05	8114	53	135	1.41	-1.38	15.3
		520	5621	8.60	8222	52	121	1.31	-1.28	14.5
		560	5757	8.21	8315	51	109	1.22	-1.19	13.9
40	6500	360	5128	11.36	8279	59	205	1.85	-1.80	19.2
		400	5395	10.75	8447	57	181	1.68	-1.63	18.1
		440	5627	10.19	8598	56	160	1.53	-1.49	17.2
		480	5830	9.67	8732	54	142	1.41	-1.38	16.3
		520	6007	9.21	8851	53	127	1.31	-1.28	15.5
		560	6158	8.80	8954	52	115	1.22	-1.19	14.9
40	7000	360	5423	12.03	8855	60	214	1.84	-1.79	20.3
		400	5713	11.40	9035	58	189	1.67	-1.63	19.2
		440	5967	10.81	9198	56	167	1.53	-1.49	18.3
		480	6190	10.28	9344	55	149	1.41	-1.38	17.4
		520	6384	9.80	9474	53	134	1.31	-1.28	16.5
		560	6550	9.38	9587	52	121	1.22	-1.19	15.8
40	7500	360	5709	12.68	9426	61	223	1.83	-1.78	21.4
		400	6023	12.03	9619	59	197	1.67	-1.63	20.3
		440	6299	11.43	9794	57	175	1.53	-1.49	19.3
		480	6541	10.88	9951	55	156	1.41	-1.38	18.4
		520	6753	10.38	10092	54	140	1.31	-1.28	17.5
		560	6934	9.95	10214	53	127	1.22	-1.20	16.8
40	8000	360	5988	13.31	9993	61	231	1.83	-1.78	22.5
		400	6325	12.64	10199	59	204	1.66	-1.62	21.3
		440	6623	12.03	10385	57	182	1.53	-1.49	20.3
		480	6884	11.46	10554	56	163	1.41	-1.37	19.3
		520	7114	10.95	10705	54	146	1.31	-1.28	18.5
		560	7310	10.52	10837	53	133	1.22	-1.20	17.7

Table 6-14. (Sheet 13)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
40	8500	360	6260	13.92	10557	62	238	1.82	-1.77	23.5
		400	6621	13.24	10774	60	212	1.66	-1.62	22.4
		440	6939	12.61	10973	58	189	1.52	-1.49	21.3
		480	7221	12.04	11153	56	169	1.41	-1.37	20.3
		520	7467	11.52	11314	55	152	1.31	-1.28	19.4
		560	7679	11.07	11455	54	138	1.23	-1.20	18.7
40	9000	360	6526	14.53	11117	62	246	1.81	-1.76	24.5
		400	6910	13.83	11346	60	218	1.65	-1.61	23.3
		440	7249	13.19	11556	59	195	1.52	-1.48	22.3
		480	7550	12.60	11747	57	175	1.40	-1.37	21.3
		520	7814	12.07	11919	56	158	1.31	-1.28	20.4
		560	8040	11.62	12068	54	144	1.23	-1.20	19.6
40	9500	360	6786	15.12	11675	63	253	1.80	-1.76	25.5
		400	7192	14.41	11915	61	225	1.65	-1.61	24.3
		440	7553	13.76	12137	59	201	1.52	-1.48	23.2
		480	7873	13.16	12338	57	181	1.40	-1.37	22.2
		520	8154	12.62	12520	56	164	1.31	-1.28	21.3
		560	8395	12.16	12678	55	149	1.23	-1.20	20.5
40	10000	360	7041	15.70	12233	63	260	1.80	-1.75	26.5
		400	7469	14.98	12482	61	232	1.64	-1.60	25.3
		440	7851	14.31	12713	60	208	1.51	-1.48	24.2
		480	8190	13.70	12926	58	187	1.40	-1.37	23.1
		520	8488	13.16	13117	57	169	1.31	-1.28	22.2
		560	8743	12.70	13283	55	155	1.23	-1.20	21.4
45	2000	360	1686	4.01	2616	53	87	2.03	-1.96	6.8
45	2500	360	2049	4.89	3233	55	101	2.01	-1.95	8.2
		400	2110	4.52	3271	53	86	1.82	-1.76	7.6
		440	2159	4.20	3303	52	75	1.65	-1.61	7.1
45	3000	360	2397	5.72	3840	56	113	2.00	-1.94	9.7
		400	2475	5.31	3889	54	97	1.81	-1.76	9.0
		440	2540	4.95	3931	53	84	1.65	-1.61	8.3
		480	2593	4.63	3965	52	74	1.51	-1.48	7.8
45	3500	360	2729	6.52	4438	57	125	1.99	-1.93	11.0
		400	2826	6.07	4499	55	107	1.80	-1.75	10.2
		440	2907	5.67	4550	54	94	1.65	-1.60	9.6
		480	2975	5.31	4593	53	82	1.51	-1.47	9.0
		520	3032	4.99	4631	52	73	1.40	-1.36	8.4
45	4000	360	3049	7.30	5029	58	135	1.98	-1.92	12.3
		400	3165	6.81	5101	56	117	1.80	-1.75	11.5
		440	3263	6.37	5162	55	102	1.64	-1.60	10.8
		480	3345	5.98	5215	54	90	1.51	-1.47	10.1
		520	3415	5.63	5260	53	80	1.40	-1.36	9.5
		560	3474	5.33	5298	52	71	1.30	-1.27	9.0
45	4500	360	3357	8.04	5614	59	146	1.97	-1.91	13.6
		400	3493	7.52	5697	57	126	1.79	-1.74	12.7
		440	3608	7.05	5768	56	111	1.64	-1.59	11.9
		480	3706	6.64	5829	55	97	1.50	-1.47	11.2
		520	3789	6.26	5883	54	87	1.39	-1.36	10.6
		560	3859	5.93	5928	53	78	1.30	-1.27	10.0
45	5000	360	3654	8.76	6193	60	155	1.96	-1.91	14.8
		400	3811	8.21	6287	58	135	1.78	-1.73	13.9
		440	3944	7.72	6368	57	119	1.63	-1.59	13.0
		480	4057	7.27	6439	55	105	1.50	-1.47	12.3
		520	4153	6.87	6500	54	93	1.39	-1.36	11.6
		560	4235	6.52	6552	53	84	1.30	-1.27	11.0

Table 6-14. (Sheet 14)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
45	5500	360	3942	9.46	6767	60	164	1.95	-1.90	16.0
		400	4119	8.89	6871	59	143	1.77	-1.73	15.0
		440	4270	8.37	6963	57	126	1.63	-1.59	14.1
		480	4399	7.89	7043	56	112	1.50	-1.46	13.3
		520	4509	7.47	7112	55	99	1.39	-1.36	12.6
		560	4603	7.10	7172	54	89	1.30	-1.27	12.0
45	6000	360	4222	10.15	7336	61	173	1.94	-1.89	17.1
		400	4419	9.54	7452	59	151	1.77	-1.72	16.1
		440	4587	9.00	7553	58	133	1.62	-1.58	15.2
		480	4733	8.50	7642	57	118	1.49	-1.46	14.4
		520	4857	8.06	7720	55	106	1.39	-1.36	13.6
		560	4963	7.67	7787	55	95	1.30	-1.27	12.9
45	6500	360	4493	10.81	7902	62	181	1.93	-1.88	18.2
		400	4710	10.18	8027	60	159	1.76	-1.72	17.2
		440	4897	9.62	8138	59	140	1.61	-1.58	16.2
		480	5059	9.10	8237	57	125	1.49	-1.46	15.4
		520	5198	8.64	8323	56	112	1.39	-1.36	14.6
		560	5316	8.23	8397	55	101	1.30	-1.27	13.9
45	7000	360	4758	11.45	8464	62	189	1.92	-1.87	19.3
		400	4995	10.81	8599	61	166	1.75	-1.71	18.2
		440	5200	10.22	8720	59	147	1.61	-1.57	17.3
		480	5378	9.69	8827	58	131	1.49	-1.45	16.3
		520	5532	9.20	8922	57	117	1.38	-1.35	15.5
		560	5662	8.79	9003	56	106	1.30	-1.27	14.8
45	7500	360	5015	12.09	9022	63	197	1.91	-1.86	20.4
		400	5272	11.42	9168	61	173	1.74	-1.70	19.3
		440	5496	10.81	9298	60	154	1.60	-1.57	18.3
		480	5690	10.26	9414	58	137	1.48	-1.45	17.3
		520	5858	9.76	9517	57	123	1.38	-1.35	16.5
		560	6002	9.34	9606	56	111	1.30	-1.27	15.8
45	8000	360	5266	12.70	9578	64	204	1.90	-1.85	21.4
		400	5544	12.02	9733	62	180	1.74	-1.70	20.3
		440	5785	11.39	9873	60	160	1.60	-1.56	19.2
		480	5996	10.82	9998	59	143	1.48	-1.45	18.3
		520	6179	10.31	10108	58	128	1.38	-1.35	17.4
		560	6335	9.87	10205	57	116	1.30	-1.27	16.7
45	8500	360	5512	13.30	10131	64	211	1.88	-1.84	22.5
		400	5809	12.61	10295	62	187	1.73	-1.69	21.3
		440	6069	11.96	10444	61	166	1.59	-1.56	20.2
		480	6296	11.38	10578	59	148	1.48	-1.45	19.2
		520	6493	10.86	10697	58	134	1.38	-1.35	18.3
		560	6662	10.41	10799	57	121	1.29	-1.27	17.6
45	9000	360	5751	13.89	10681	65	217	1.87	-1.83	23.5
		400	6068	13.18	10855	63	193	1.72	-1.68	22.2
		440	6346	12.52	11013	61	172	1.59	-1.55	21.1
		480	6590	11.93	11155	60	154	1.47	-1.44	20.1
		520	6802	11.39	11281	59	139	1.38	-1.35	19.2
		560	6983	10.93	11391	58	126	1.29	-1.27	18.5
45	9500	360	5986	14.47	11229	65	224	1.86	-1.82	24.4
		400	6323	13.74	11412	63	199	1.71	-1.67	23.2
		440	6619	13.07	11578	62	177	1.58	-1.55	22.1
		480	6879	12.46	11729	60	159	1.47	-1.44	21.0
		520	7105	11.92	11863	59	144	1.37	-1.35	20.1
		560	7298	11.46	11980	58	131	1.29	-1.27	19.3

Table 6-14. (Sheet 15)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL	CROSS FT/KNOT
45	10000	360	6216	15.04	11775	66	230	1.85	-1.81	25.4
		400	6572	14.30	11966	64	204	1.71	-1.67	24.1
		440	6886	13.62	12142	62	183	1.58	-1.54	23.0
		480	7162	13.00	12300	61	164	1.47	-1.44	21.9
		520	7403	12.44	12442	59	149	1.37	-1.34	21.0
		560	7609	11.97	12565	58	135	1.29	-1.27	20.2
50	2500	360	1753	4.61	3053	58	89	2.13	-2.07	7.8
		400	1800	4.25	3080	57	76	1.93	-1.87	7.2
50	3000	360	2054	5.41	3636	59	99	2.11	-2.05	9.1
		400	2116	5.01	3671	58	85	1.91	-1.86	8.4
		440	2167	4.65	3701	57	74	1.75	-1.71	7.9
50	3500	360	2345	6.18	4213	60	109	2.09	-2.04	10.4
		400	2422	5.74	4256	59	94	1.90	-1.85	9.7
		440	2485	5.34	4293	58	82	1.74	-1.70	9.0
		480	2538	5.00	4323	57	72	1.60	-1.57	8.4
50	4000	360	2624	6.93	4784	61	119	2.08	-2.02	11.7
		400	2717	6.44	4836	60	103	1.89	-1.84	10.9
		440	2794	6.01	4879	59	90	1.73	-1.69	10.2
		480	2859	5.63	4917	58	79	1.60	-1.56	9.5
		520	2913	5.29	4948	57	70	1.48	-1.45	8.9
50	4500	360	2894	7.65	5351	62	128	2.06	-2.01	12.9
		400	3004	7.13	5410	61	111	1.88	-1.83	12.0
		440	3095	6.67	5462	59	97	1.72	-1.68	11.3
		480	3171	6.26	5505	58	85	1.59	-1.55	10.6
		520	3236	5.89	5543	57	76	1.47	-1.44	9.9
		560	3291	5.57	5575	57	68	1.38	-1.35	9.4
50	5000	360	3156	8.35	5913	63	136	2.05	-1.99	14.1
		400	3282	7.80	5981	61	118	1.87	-1.82	13.2
		440	3387	7.31	6039	60	104	1.71	-1.68	12.3
		480	3477	6.87	6090	59	91	1.58	-1.55	11.6
		520	3552	6.47	6133	58	81	1.47	-1.44	10.9
		560	3616	6.13	6171	57	73	1.38	-1.35	10.3
50	5500	360	3410	9.03	6471	63	144	2.03	-1.98	15.2
		400	3552	8.45	6547	62	126	1.86	-1.81	14.3
		440	3673	7.93	6614	61	110	1.71	-1.67	13.4
		480	3775	7.46	6671	59	97	1.58	-1.54	12.6
		520	3862	7.05	6720	59	87	1.47	-1.44	11.9
		560	3935	6.68	6763	58	78	1.37	-1.35	11.3
50	6000	360	3656	9.69	7026	64	152	2.02	-1.97	16.4
		400	3816	9.09	7111	63	133	1.84	-1.80	15.3
		440	3951	8.54	7184	61	117	1.70	-1.66	14.4
		480	4066	8.05	7248	60	103	1.57	-1.54	13.6
		520	4165	7.61	7304	59	92	1.46	-1.43	12.8
		560	4248	7.23	7352	58	83	1.37	-1.34	12.2
50	6500	360	3896	10.34	7578	65	159	2.00	-1.95	17.4
		400	4073	9.71	7670	63	139	1.83	-1.79	16.4
		440	4223	9.14	7751	62	123	1.69	-1.65	15.4
		480	4352	8.62	7822	61	109	1.57	-1.53	14.6
		520	4462	8.17	7884	60	97	1.46	-1.43	13.8
		560	4555	7.77	7937	59	88	1.37	-1.34	13.1
50	7000	360	4130	10.97	8128	65	166	1.99	-1.94	18.5
		400	4323	10.31	8228	64	146	1.82	-1.78	17.4
		440	4489	9.72	8316	62	129	1.68	-1.65	16.4
		480	4631	9.19	8393	61	114	1.56	-1.53	15.5
		520	4754	8.71	8461	60	102	1.45	-1.43	14.7
		560	4857	8.30	8520	59	92	1.37	-1.34	14.0

Table 6-14. (Sheet 16)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
50	7500	360	4358	11.58	8674	66	172	1.97	-1.93	19.5
		400	4568	10.91	8782	64	152	1.81	-1.77	18.4
		440	4749	10.30	8877	63	134	1.67	-1.64	17.4
		480	4905	9.74	8962	62	120	1.55	-1.52	16.4
		520	5040	9.25	9036	60	107	1.45	-1.42	15.6
		560	5153	8.82	9100	60	97	1.36	-1.34	14.9
50	8000	360	4581	12.18	9219	66	179	1.96	-1.92	20.6
		400	4808	11.49	9334	65	158	1.80	-1.76	19.4
		440	5004	10.86	9436	63	140	1.67	-1.63	18.3
		480	5174	10.29	9527	62	125	1.55	-1.52	17.4
		520	5320	9.78	9608	61	112	1.45	-1.42	16.5
		560	5444	9.34	9677	60	101	1.36	-1.34	15.8
50	8500	360	4799	12.77	9761	67	185	1.95	-1.90	21.6
		400	5043	12.06	9883	65	163	1.79	-1.76	20.4
		440	5255	11.41	9993	64	145	1.66	-1.63	19.3
		480	5438	10.83	10091	62	130	1.54	-1.51	18.3
		520	5596	10.31	10177	61	116	1.44	-1.42	17.4
		560	5730	9.86	10251	60	106	1.36	-1.33	16.6
50	9000	360	5012	13.35	10301	67	191	1.93	-1.89	22.5
		400	5273	12.62	10431	66	169	1.78	-1.75	21.3
		440	5500	11.96	10547	64	150	1.65	-1.62	20.2
		480	5697	11.36	10652	63	134	1.54	-1.51	19.2
		520	5867	10.82	10744	62	121	1.44	-1.41	18.3
		560	6012	10.36	10823	61	110	1.36	-1.33	17.5
50	9500	360	5220	13.92	10840	68	196	1.92	-1.88	23.5
		400	5498	13.18	10976	66	174	1.77	-1.74	22.2
		440	5741	12.50	11100	65	155	1.64	-1.61	21.1
		480	5952	11.88	11210	63	139	1.53	-1.50	20.1
		520	6134	11.33	11308	62	125	1.44	-1.41	19.1
		560	6289	10.87	11393	61	114	1.36	-1.33	18.3
50	10000	360	5425	14.48	11377	68	202	1.91	-1.87	24.4
		400	5720	13.72	11520	66	179	1.76	-1.73	23.2
		440	5977	13.02	11650	65	160	1.64	-1.61	22.0
		480	6202	12.40	11767	64	143	1.53	-1.50	20.9
		520	6396	11.84	11871	63	130	1.43	-1.41	20.0
		560	6561	11.36	11960	62	118	1.35	-1.33	19.2
55	2500	360	1482	4.38	2906	62	78	2.23	-2.17	7.4
55	3000	360	1741	5.16	3468	63	87	2.21	-2.15	8.7
		400	1789	4.76	3493	62	75	2.01	-1.96	8.0
55	3500	360	1990	5.90	4026	64	95	2.18	-2.13	10.0
		400	2051	5.46	4057	63	82	1.99	-1.94	9.2
		440	2101	5.08	4082	62	72	1.82	-1.79	8.6
55	4000	360	2231	6.62	4580	65	103	2.16	-2.11	11.2
		400	2305	6.14	4616	63	89	1.97	-1.93	10.4
		440	2366	5.72	4647	62	78	1.81	-1.77	9.7
		480	2416	5.35	4673	62	69	1.67	-1.64	9.0
55	4500	360	2464	7.32	5130	65	111	2.14	-2.09	12.4
		400	2551	6.81	5173	64	96	1.96	-1.92	11.5
		440	2623	6.35	5209	63	84	1.80	-1.76	10.7
		480	2684	5.95	5240	62	74	1.67	-1.63	10.0

Table 6-14. (Sheet 17)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL	CROSS FT/KNOT
55	5000	360	2690	8.00	5678	66	118	2.12	-2.08	13.5
		400	2791	7.46	5726	65	103	1.94	-1.90	12.6
		440	2875	6.97	5768	64	90	1.79	-1.75	11.8
		480	2946	6.54	5803	63	79	1.66	-1.63	11.0
		520	3005	6.15	5834	62	71	1.54	-1.51	10.4
55	5500	360	2910	8.66	6222	67	125	2.10	-2.06	14.6
		400	3024	8.09	6277	65	109	1.93	-1.89	13.6
		440	3121	7.57	6324	64	96	1.78	-1.74	12.8
		480	3202	7.11	6364	63	85	1.65	-1.62	12.0
		520	3270	6.70	6399	62	75	1.54	-1.51	11.3
		560	3328	6.35	6428	62	68	1.44	-1.42	10.7
55	6000	360	3123	9.31	6764	67	132	2.09	-2.04	15.7
		400	3252	8.70	6825	66	115	1.92	-1.88	14.7
		440	3361	8.16	6877	65	101	1.77	-1.73	13.8
		480	3452	7.68	6922	64	90	1.64	-1.61	13.0
		520	3530	7.24	6962	63	80	1.53	-1.50	12.2
		560	3596	6.87	6995	62	72	1.44	-1.41	11.6
55	6500	360	3332	9.94	7304	68	138	2.07	-2.03	16.8
		400	3475	9.31	7370	66	121	1.90	-1.86	15.7
		440	3595	8.74	7428	65	106	1.76	-1.72	14.8
		480	3698	8.23	7478	64	94	1.63	-1.60	13.9
		520	3786	7.78	7522	63	84	1.52	-1.50	13.1
		560	3859	7.39	7559	62	76	1.43	-1.41	12.5
55	7000	360	3535	10.55	7842	68	144	2.05	-2.01	17.8
		400	3692	9.90	7914	67	126	1.89	-1.85	16.7
		440	3825	9.31	7977	66	111	1.75	-1.71	15.7
		480	3939	8.78	8032	64	99	1.62	-1.60	14.8
		520	4036	8.31	8080	64	88	1.52	-1.49	14.0
		560	4118	7.90	8122	63	80	1.43	-1.41	13.3
55	7500	360	3733	11.16	8378	69	150	2.04	-1.99	18.8
		400	3905	10.48	8456	67	132	1.88	-1.84	17.7
		440	4051	9.87	8524	66	116	1.74	-1.71	16.7
		480	4176	9.32	8584	65	103	1.62	-1.59	15.7
		520	4283	8.83	8637	64	93	1.51	-1.49	14.9
		560	4373	8.40	8682	63	84	1.43	-1.40	14.2
55	8000	360	3928	11.75	8912	69	155	2.02	-1.98	19.8
		400	4113	11.05	8995	68	137	1.86	-1.83	18.6
		440	4272	10.42	9069	66	121	1.73	-1.70	17.6
		480	4408	9.85	9134	65	108	1.61	-1.58	16.6
		520	4525	9.34	9191	64	97	1.51	-1.48	15.8
		560	4623	8.90	9240	64	87	1.42	-1.40	15.0
55	8500	360	4117	12.32	9445	69	160	2.00	-1.97	20.8
		400	4317	11.61	9534	68	142	1.85	-1.82	19.6
		440	4489	10.96	9612	67	126	1.72	-1.69	18.5
		480	4637	10.37	9682	66	112	1.60	-1.57	17.5
		520	4763	9.85	9744	65	101	1.50	-1.48	16.6
		560	4870	9.40	9796	64	91	1.42	-1.40	15.9
55	9000	360	4303	12.89	9976	70	165	1.99	-1.95	21.8
		400	4517	12.16	10070	68	146	1.84	-1.81	20.5
		440	4702	11.49	10154	67	130	1.71	-1.68	19.4
		480	4861	10.88	10229	66	116	1.60	-1.57	18.4
		520	4998	10.35	10294	65	105	1.50	-1.47	17.5
		560	5113	9.89	10351	64	95	1.42	-1.39	16.7

Table 6-14. (Sheet 18)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNCT
55	9500	360	4486	13.45	10506	70	170	1.97	-1.94	22.7
		400	4714	12.69	10605	69	151	1.83	-1.80	21.4
		440	4911	12.01	10694	67	134	1.70	-1.67	20.3
		480	5082	11.39	10774	66	120	1.59	-1.56	19.2
		520	5228	10.85	10844	65	108	1.49	-1.47	18.3
		560	5352	10.38	10904	65	98	1.41	-1.39	17.5
55	10000	360	4665	13.99	11035	71	175	1.96	-1.92	23.6
		400	4907	13.22	11139	69	155	1.82	-1.78	22.3
		440	5117	12.52	11233	68	138	1.69	-1.66	21.1
		480	5299	11.89	11317	67	124	1.58	-1.56	20.1
		520	5455	11.34	11391	66	112	1.49	-1.46	19.1
		560	5588	10.86	11455	65	102	1.41	-1.39	18.3
60	3000	360	1449	4.95	3332	67	75	2.29	-2.24	8.4
60	3500	360	1659	5.67	3873	68	82	2.26	-2.22	9.6
		400	1708	5.24	3894	67	71	2.07	-2.03	8.8
60	4000	360	1862	6.37	4412	68	89	2.24	-2.19	10.8
		400	1921	5.90	4437	67	77	2.05	-2.01	10.0
		440	1969	5.48	4459	66	67	1.89	-1.85	9.3
60	4500	360	2059	7.05	4949	69	96	2.21	-2.17	11.9
		400	2129	6.54	4978	68	83	2.03	-1.99	11.0
		440	2186	6.10	5003	67	72	1.87	-1.84	10.3
60	5000	360	2251	7.72	5483	69	102	2.19	-2.15	13.0
		400	2331	7.17	5517	68	88	2.01	-1.97	12.1
		440	2398	6.69	5545	67	77	1.86	-1.82	11.3
		480	2454	6.27	5570	66	68	1.72	-1.69	10.6
60	5500	360	2437	8.36	6016	70	108	2.17	-2.13	14.1
		400	2529	7.79	6053	69	94	1.99	-1.96	13.1
		440	2605	7.28	6086	68	82	1.84	-1.81	12.3
		480	2669	6.82	6114	67	73	1.71	-1.68	11.5
		520	2723	6.42	6137	66	65	1.60	-1.57	10.8
60	6000	360	2618	8.99	6546	70	113	2.15	-2.11	15.2
		400	2721	8.39	6588	69	99	1.98	-1.94	14.2
		440	2808	7.85	6625	68	87	1.83	-1.80	13.3
		480	2881	7.37	6656	67	77	1.70	-1.67	12.4
		520	2942	6.95	6683	67	68	1.59	-1.57	11.7
		560	2994	6.58	6705	66	62	1.50	-1.47	11.1
60	6500	360	2795	9.61	7076	71	118	2.13	-2.09	16.2
		400	2910	8.98	7122	70	103	1.96	-1.93	15.2
		440	3007	8.42	7162	69	91	1.82	-1.79	14.2
		430	3088	7.91	7196	68	81	1.69	-1.67	13.4
		520	3157	7.46	7226	67	72	1.58	-1.56	12.6
		560	3215	7.08	7252	66	65	1.49	-1.47	11.9
60	7000	360	2968	10.21	7603	71	123	2.11	-2.07	17.2
		400	3094	9.56	7653	70	108	1.95	-1.91	16.1
		440	3201	8.97	7697	69	95	1.81	-1.78	15.1
		480	3292	8.44	7735	68	85	1.68	-1.66	14.2
		520	3369	7.98	7768	67	76	1.58	-1.55	13.5
		560	3433	7.57	7797	67	68	1.48	-1.46	12.8
60	7500	360	3137	10.80	8130	72	128	2.09	-2.05	18.2
		400	3275	10.12	8184	70	113	1.93	-1.90	17.1
		440	3392	9.51	8231	69	100	1.79	-1.77	16.1
		480	3492	8.97	8273	68	89	1.67	-1.65	15.1
		520	3577	8.48	8309	68	79	1.57	-1.55	14.3
		560	3648	8.06	8340	67	72	1.48	-1.46	13.6

Table 6-14. (Sheet 19)

DIVE BOMBING TABLES
FOR
MK-83 1000-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
60	8000	360	3302	11.38	8655	72	133	2.07	-2.04	19.2
		400	3452	10.68	8713	71	117	1.92	-1.89	18.0
		440	3580	10.05	8764	70	103	1.78	-1.75	17.0
		480	3689	9.48	8809	69	92	1.66	-1.64	16.0
		520	3781	8.98	8849	68	83	1.56	-1.54	15.2
		560	3859	8.55	8882	67	75	1.47	-1.45	14.4
60	8500	360	3464	11.95	9179	72	137	2.05	-2.02	20.2
		400	3626	11.23	9241	71	121	1.90	-1.87	19.0
		440	3764	10.58	9296	70	107	1.77	-1.74	17.8
		480	3882	9.99	9345	69	96	1.66	-1.63	16.9
		520	3983	9.47	9387	68	86	1.56	-1.53	16.0
		560	4068	9.03	9423	68	78	1.47	-1.45	15.2
60	9000	360	3623	12.51	9702	73	142	2.04	-2.00	21.1
		400	3796	11.77	9768	71	125	1.89	-1.86	19.9
		440	3945	11.09	9827	70	111	1.76	-1.73	18.7
		480	4072	10.49	9879	69	99	1.65	-1.62	17.7
		520	4181	9.96	9924	69	89	1.55	-1.53	16.8
		560	4273	9.50	9963	68	81	1.47	-1.45	16.0
60	9500	360	3778	13.05	10224	73	146	2.02	-1.99	22.0
		400	3964	12.29	10294	72	129	1.88	-1.85	20.8
		440	4123	11.61	10356	71	115	1.75	-1.72	19.6
		480	4260	10.99	10411	70	103	1.64	-1.62	18.5
		520	4377	10.44	10460	69	92	1.54	-1.52	17.6
		560	4475	9.98	10501	68	84	1.46	-1.44	16.8
60	10000	360	3931	13.59	10745	73	150	2.00	-1.97	22.9
		400	4128	12.81	10819	72	133	1.86	-1.84	21.6
		440	4298	12.11	10885	71	118	1.74	-1.71	20.4
		480	4444	11.48	10943	70	106	1.63	-1.61	19.4
		520	4569	10.92	10995	69	95	1.54	-1.52	18.4
		560	4675	10.44	11039	68	87	1.46	-1.44	17.6

Table 6-15. (Sheet 1)

LEVEL BOMBING TABLES
FOR
MK-84 2000-LB GP BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CROSS CRAB FT/KNOT
0	500	360	3190	5.29	3229	17	158	.45	-.43	8.9	.1
		400	3543	5.29	3578	15	142	.36	-.35	8.9	.1
		440	3896	5.29	3928	14	129	.30	-.29	8.9	.1
		480	4248	5.29	4278	13	119	.25	-.24	8.9	.1
		520	4601	5.29	4628	12	110	.22	-.21	8.9	.1
		560	4952	5.29	4977	11	102	.19	-.18	8.9	.1
0	600	360	3510	5.82	3561	18	172	.49	-.46	9.8	.1
		400	3898	5.82	3944	16	155	.40	-.38	9.8	.1
		440	4286	5.82	4328	15	141	.33	-.31	9.8	.1
		480	4674	5.82	4712	14	129	.28	-.26	9.8	.1
		520	5061	5.83	5097	13	119	.24	-.23	9.8	.1
		560	5447	5.83	5480	12	111	.20	-.20	9.8	.1
0	700	360	3804	6.31	3868	19	184	.52	-.49	10.7	.1
		400	4225	6.31	4282	18	166	.42	-.40	10.7	.1
		440	4645	6.32	4698	16	151	.35	-.34	10.7	.1
		480	5065	6.32	5113	15	139	.30	-.28	10.7	.1
		520	5484	6.32	5529	14	128	.25	-.24	10.7	.1
		560	5903	6.32	5944	13	119	.22	-.21	10.7	.1
0	800	360	4077	6.77	4155	21	196	.55	-.52	11.4	.1
		400	4528	6.77	4599	19	177	.45	-.43	11.4	.1
		440	4979	6.77	5043	17	161	.37	-.36	11.4	.1
		480	5428	6.78	5487	16	148	.31	-.30	11.4	.1
		520	5878	6.78	5932	15	137	.27	-.26	11.4	.1
		560	6326	6.78	6376	14	127	.23	-.22	11.4	.1
0	900	360	4334	7.20	4427	22	207	.58	-.55	12.2	.1
		400	4813	7.20	4897	20	187	.47	-.45	12.2	.1
		440	5292	7.20	5368	18	170	.39	-.38	12.2	.1
		480	5770	7.21	5839	17	156	.33	-.32	12.2	.1
		520	6247	7.21	6311	16	144	.28	-.27	12.2	.2
		560	6723	7.21	6783	15	134	.25	-.24	12.2	.2
0	1000	360	4577	7.61	4685	23	217	.61	-.58	12.8	.1
		400	5083	7.61	5180	21	196	.50	-.47	12.8	.1
		440	5588	7.61	5677	19	179	.41	-.39	12.8	.1
		480	6092	7.61	6174	18	164	.35	-.33	12.9	.2
		520	6596	7.62	6671	16	152	.30	-.29	12.9	.2
		560	7098	7.62	7168	15	141	.26	-.25	12.9	.2
0	1100	400	5339	8.00	5451	22	205	.52	-.49	13.5	.1
		440	5870	8.00	5972	20	187	.43	-.41	13.5	.2
		480	6399	8.00	6493	18	171	.36	-.35	13.5	.2
		520	6928	8.00	7014	17	159	.31	-.30	13.5	.2
		560	7455	8.01	7536	16	147	.27	-.26	13.5	.2
0	1200	400	5583	8.37	5711	23	213	.54	-.51	14.1	.2
		440	6138	8.37	6254	21	194	.45	-.43	14.1	.2
		480	6691	8.37	6798	19	179	.38	-.36	14.1	.2
		520	7244	8.37	7342	18	165	.32	-.31	14.1	.2
		560	7795	8.38	7887	17	154	.28	-.27	14.1	.2
0	1300	400	5818	8.72	5961	24	221	.56	-.53	14.7	.2
		440	6395	8.73	6526	22	202	.46	-.44	14.7	.2
		480	6972	8.73	7092	20	185	.39	-.38	14.7	.2
		520	7548	8.73	7659	19	172	.34	-.32	14.7	.2
		560	8122	8.74	8225	17	160	.29	-.28	14.7	.2
0	1400	440	6643	9.07	6789	22	209	.48	-.46	15.3	.2
		480	7242	9.07	7376	21	192	.41	-.39	15.3	.2
		520	7840	9.07	7964	19	178	.35	-.33	15.3	.2
		560	8436	9.08	8551	18	165	.30	-.29	15.3	.3

Table 6-15. (Sheet 2)

LEVEL BOMBING TABLES
FOR
MK-84 2000-LB GP BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CROSS CRAB FT/KNOT
0	1500	440	6882	9.40	7043	23	216	.49	-.47	15.9	.2
		480	7502	9.40	7651	21	198	.42	-.40	15.9	.2
		520	8121	9.41	8259	20	184	.36	-.35	15.9	.3
		560	8738	9.41	8866	19	171	.31	-.30	15.9	.3
0	1600	480	7754	9.72	7917	22	205	.43	-.41	16.4	.3
		520	8393	9.73	8545	21	189	.37	-.36	16.4	.3
		560	9031	9.73	9171	19	176	.32	-.31	16.4	.3
0	1700	480	7997	10.03	8176	23	210	.44	-.43	16.9	.3
		520	8657	10.04	8822	21	195	.38	-.37	16.9	.3
		560	9314	10.04	9468	20	181	.33	-.32	16.9	.3
0	1800	480	8234	10.33	8428	23	216	.45	-.44	17.4	.3
		520	8913	10.34	9093	22	200	.39	-.38	17.4	.3
		560	9589	10.34	9757	20	186	.34	-.33	17.5	.3
0	1900	520	9161	10.63	9356	22	205	.40	-.38	17.9	.3
		560	9856	10.64	10038	21	191	.35	-.33	18.0	.4
0	2000	520	9404	10.92	9614	23	210	.41	-.39	18.4	.3
		560	10116	10.92	10312	21	196	.35	-.34	18.4	.4
0	2500	560	11327	12.26	11600	24	218	.39	-.38	20.7	.5

Table 6-15. (Sheet 3)

DIVE BOMBING TABLES
FOR
MK-84 2000-LB GP BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
15	1000	360	2479	4.27	2673	28	124	1.05	-1.00	7.2
		400	2605	4.03	2790	26	107	.91	-.87	6.8
		440	2713	3.82	2892	24	94	.80	-.76	6.4
		480	2808	3.62	2981	23	82	.71	-.68	6.1
		520	2891	3.44	3060	22	73	.64	-.62	5.8
		560	2964	3.28	3128	22	66	.58	-.56	5.5
15	1500	360	3365	5.80	3684	31	160	1.12	-1.07	9.8
		400	3562	5.53	3865	29	139	.97	-.92	9.3
		440	3737	5.27	4027	28	122	.85	-.81	8.9
		480	3893	5.03	4172	26	108	.75	-.72	8.5
		520	4032	4.81	4302	25	96	.68	-.65	8.1
		560	4156	4.61	4418	24	86	.61	-.59	7.8
15	2000	360	4140	7.15	4598	34	190	1.18	-1.12	12.1
		400	4405	6.85	4838	32	166	1.02	-.97	11.6
		440	4645	6.56	5057	30	146	.89	-.86	11.1
		480	4860	6.30	5256	29	130	.79	-.76	10.6
		520	5055	6.05	5436	27	116	.71	-.68	10.2
		560	5231	5.81	5600	26	105	.64	-.62	9.8
15	2500	360	4837	8.37	5445	37	217	1.23	-1.17	14.1
		400	5167	8.05	5740	34	190	1.06	-1.01	13.6
		440	5468	7.74	6012	32	168	.93	-.89	13.1
		480	5741	7.45	6262	31	150	.82	-.79	12.6
		520	5990	7.18	6491	29	135	.74	-.71	12.1
		560	6217	6.92	6701	28	122	.66	-.64	11.7
15	3000	400	5867	9.15	6590	37	212	1.09	-1.05	15.4
		440	6226	8.83	6911	34	188	.96	-.92	14.9
		480	6555	8.52	7209	33	169	.85	-.82	14.4
		520	6857	8.23	7485	31	152	.76	-.73	13.9
		560	7134	7.96	7739	29	137	.69	-.66	13.4
15	3500	400	6518	10.18	7398	38	232	1.13	-1.08	17.2
		440	6932	9.84	7766	36	207	.99	-.95	16.6
		480	7314	9.52	8109	34	185	.87	-.84	16.1
		520	7668	9.22	8429	32	167	.78	-.76	15.6
		560	7993	8.93	8726	31	152	.71	-.68	15.1
15	4000	440	7596	10.80	8585	38	224	1.01	-.97	18.2
		480	8029	10.47	8971	36	201	.90	-.87	17.7
		520	8432	10.15	9333	34	182	.80	-.78	17.1
		560	8804	9.85	9670	32	165	.73	-.70	16.6
15	4500	440	8224	11.71	9375	39	240	1.03	-1.00	19.8
		480	8707	11.37	9801	37	216	.92	-.89	19.2
		520	9157	11.04	10203	35	196	.82	-.79	18.6
		560	9574	10.73	10579	34	178	.74	-.72	18.1
15	5000	480	9352	12.22	10604	38	230	.94	-.90	20.6
		520	9847	11.89	11044	37	209	.84	-.81	20.1
		560	10309	11.57	11458	35	190	.76	-.73	19.5
15	5500	520	10509	12.70	11861	38	221	.85	-.83	21.4
		560	11013	12.38	12310	36	202	.77	-.75	20.9
15	6000	520	11143	13.48	12656	39	233	.87	-.84	22.8
		560	11689	13.16	13139	37	213	.79	-.76	22.2
15	6500	560	12341	13.91	13948	38	224	.80	-.77	23.5
20	1000	360	2057	3.64	2287	31	106	1.22	-1.16	6.1
		400	2138	3.40	2360	29	91	1.07	-1.02	5.7
		440	2206	3.19	2422	28	79	.95	-.91	5.4
		480	2263	3.00	2474	27	69	.85	-.82	5.1
		520	2312	2.83	2519	26	62	.78	-.75	4.8
		560	2355	2.68	2558	25	55	.71	-.69	4.5

Table 6-15. (Sheet 4)

DIVE BOMBING TABLES
FOR
MK-84 2000-LB GP BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT	MILS/KNOT	FT/KT
20	1500	360	2850	5.06	3221	34	138	1.28	-1.22	8.5
		400	2985	4.76	3341	32	119	1.11	-1.07	8.0
		440	3101	4.50	3445	30	103	.99	-.95	7.6
		480	3202	4.25	3536	29	91	.89	-.85	7.2
		520	3289	4.03	3615	28	81	.80	-.78	6.8
		560	3365	3.83	3684	27	72	.73	-.71	6.5
20	2000	360	3557	6.32	4081	37	165	1.32	-1.26	10.7
		400	3746	5.99	4247	35	143	1.15	-1.11	10.1
		440	3912	5.68	4393	33	125	1.02	-.98	9.6
		480	4057	5.40	4523	31	110	.91	-.88	9.1
		520	4185	5.14	4638	30	98	.83	-.80	8.7
		560	4297	4.90	4740	29	88	.75	-.73	8.3
20	2500	360	4201	7.47	4888	39	189	1.36	-1.30	12.6
		400	4443	7.11	5098	37	165	1.19	-1.14	12.0
		440	4658	6.78	5286	35	145	1.05	-1.01	11.4
		480	4848	6.46	5455	33	128	.94	-.91	10.9
		520	5017	6.18	5606	32	114	.85	-.82	10.4
		560	5168	5.91	5741	31	103	.77	-.75	10.0
20	3000	360	4795	8.54	5656	41	211	1.39	-1.33	14.4
		400	5089	8.16	5908	39	185	1.21	-1.17	13.8
		440	5352	7.80	6135	37	163	1.07	-1.03	13.2
		480	5587	7.46	6341	35	145	.96	-.93	12.6
		520	5798	7.15	6528	33	130	.87	-.84	12.1
		560	5987	6.86	6696	32	117	.79	-.77	11.6
20	3500	360	5350	9.54	6394	43	232	1.42	-1.36	16.1
		400	5694	9.14	6684	40	203	1.24	-1.19	15.4
		440	6004	8.76	6949	38	180	1.10	-1.06	14.8
		480	6283	8.40	7192	36	160	.98	-.95	14.2
		520	6535	8.07	7413	35	144	.89	-.86	13.6
		560	6762	7.76	7614	34	130	.81	-.78	13.1
20	4000	400	6265	10.07	7433	42	220	1.26	-1.21	17.0
		440	6620	9.67	7734	40	196	1.12	-1.08	16.3
		480	6942	9.30	8012	38	175	1.00	-.97	15.7
		520	7234	8.94	8267	36	157	.90	-.87	15.1
		560	7499	8.62	8499	35	142	.82	-.80	14.5
20	4500	400	6806	10.95	8159	43	236	1.28	-1.23	18.5
		440	7206	10.54	8495	41	210	1.13	-1.09	17.8
		480	7570	10.15	8806	39	188	1.01	-.98	17.1
		520	7902	9.78	9094	37	169	.92	-.89	16.5
		560	8204	9.44	9357	36	153	.83	-.81	15.9
20	5000	440	7765	11.37	9236	42	224	1.15	-1.11	19.2
		480	8170	10.97	9579	40	201	1.03	-1.00	18.5
		520	8542	10.59	9897	39	181	.93	-.90	17.9
		560	8881	10.23	10191	37	164	.85	-.82	17.3
20	5500	440	8301	12.17	9958	44	237	1.16	-1.12	20.5
		480	8747	11.76	10332	42	213	1.04	-1.01	19.8
		520	9156	11.36	10681	40	193	.94	-.91	19.2
		560	9531	11.00	11004	38	175	.86	-.83	18.6
20	6000	480	9302	12.51	11069	43	225	1.05	-1.02	21.1
		520	9748	12.11	11447	41	203	.95	-.92	20.4
		560	10159	11.74	11798	39	185	.87	-.84	19.8
20	6500	480	9837	13.25	11791	44	236	1.06	-1.03	22.4
		520	10320	12.84	12197	42	214	.96	-.93	21.7
		560	10765	12.46	12575	40	195	.88	-.85	21.0

Table 6-15. (Sheet 5)

DIVE BOMBING TABLES
FOR
MK-84 2000-LB GP BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
20	7000	520	10874	13.54	12932	43	224	.97	-.94	22.9
		560	11353	13.15	13337	41	204	.89	-.86	22.2
20	7500	520	11411	14.23	13655	43	233	.98	-.95	24.0
		560	11923	13.83	14086	42	213	.90	-.87	23.3
20	8000	560	12477	14.50	14821	43	222	.91	-.88	24.5
30	1000	360	1457	2.81	1767	38	81	1.58	-1.51	4.7
30	1500	360	2074	4.00	2559	40	105	1.60	-1.53	6.8
		400	2141	3.71	2614	39	90	1.42	-1.36	6.3
		440	2197	3.46	2660	38	78	1.27	-1.23	5.8
		480	2243	3.24	2698	37	68	1.16	-1.12	5.5
30	2000	360	2641	5.10	3313	43	127	1.62	-1.55	8.6
		400	2741	4.76	3393	41	109	1.43	-1.38	8.0
		440	2825	4.46	3461	39	94	1.29	-1.24	7.5
		480	2895	4.19	3519	38	83	1.17	-1.13	7.1
		520	2955	3.94	3568	37	73	1.07	-1.04	6.7
		560	3006	3.72	3611	36	65	.99	-.96	6.3
30	2500	360	3168	6.13	4036	44	146	1.63	-1.57	10.3
		400	3302	5.74	4142	43	126	1.45	-1.40	9.7
		440	3416	5.40	4233	41	110	1.30	-1.26	9.1
		480	3513	5.09	4312	40	96	1.18	-1.14	8.6
		520	3596	4.80	4380	39	85	1.08	-1.05	8.1
		560	3667	4.55	4438	38	76	.99	-.97	7.7
30	3000	360	3663	7.09	4735	46	164	1.64	-1.58	12.0
		400	3832	6.67	4866	44	142	1.46	-1.41	11.3
		440	3976	6.29	4981	42	124	1.31	-1.27	10.6
		480	4101	5.94	5081	41	109	1.19	-1.15	10.0
		520	4208	5.63	5168	40	97	1.09	-1.06	9.5
		560	4301	5.34	5244	39	87	1.00	-.97	9.0
30	3500	360	4130	8.01	5414	48	181	1.65	-1.59	13.5
		400	4334	7.56	5571	46	157	1.47	-1.42	12.8
		440	4510	7.14	5709	44	138	1.32	-1.28	12.1
		480	4662	6.77	5830	42	122	1.20	-1.16	11.4
		520	4795	6.42	5937	41	108	1.10	-1.07	10.8
		560	4911	6.11	6030	40	97	1.01	-.98	10.3
30	4000	360	4575	8.88	6077	49	196	1.66	-1.60	15.0
		400	4813	8.40	6258	47	171	1.48	-1.43	14.2
		440	5020	7.96	6419	45	150	1.33	-1.29	13.4
		480	5201	7.56	6561	43	133	1.21	-1.17	12.8
		520	5360	7.19	6688	42	119	1.11	-1.07	12.1
		560	5499	6.85	6800	41	106	1.02	-.99	11.6
30	4500	360	4999	9.71	6726	50	211	1.67	-1.61	16.4
		400	5271	9.21	6931	48	184	1.49	-1.44	15.5
		440	5510	8.75	7114	46	162	1.34	-1.30	14.8
		480	5719	8.32	7278	45	144	1.22	-1.18	14.0
		520	5904	7.93	7424	43	129	1.11	-1.08	13.4
		560	6067	7.57	7554	42	115	1.02	-1.00	12.8
30	5000	360	5405	10.51	7363	51	224	1.67	-1.61	17.7
		400	5711	9.99	7591	49	197	1.49	-1.44	16.9
		440	5981	9.51	7796	47	174	1.35	-1.30	16.0
		480	6219	9.06	7980	46	154	1.22	-1.19	15.3
		520	6430	8.64	8146	44	138	1.12	-1.09	14.6
		560	6617	8.26	8294	43	124	1.03	-1.00	13.9
30	5500	360	5796	11.28	7990	53	237	1.67	-1.62	19.0
		400	6135	10.74	8240	50	208	1.50	-1.45	18.1
		440	6436	10.24	8466	48	184	1.35	-1.31	17.3
		480	6703	9.77	8671	46	164	1.23	-1.19	16.5
		520	6940	9.34	8855	45	147	1.12	-1.09	15.8
		560	7151	8.94	9021	44	133	1.04	-1.01	15.1

Table 6-15. (Sheet 6)

DIVE BOMBING TABLES
FOR
MK-84 2000-LB GP BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
30	6000	400	6544	11.47	8879	51	219	1.50	-1.45	19.4
		440	6876	10.95	9126	49	195	1.36	-1.31	18.5
		480	7171	10.47	9350	47	174	1.23	-1.20	17.7
		520	7435	10.02	9554	46	156	1.13	-1.10	16.9
		560	7670	9.60	9738	44	141	1.04	-1.01	16.2
30	6500	400	6941	12.17	9509	52	230	1.50	-1.46	20.5
		440	7302	11.64	9776	50	205	1.36	-1.32	19.6
		480	7626	11.14	10020	48	183	1.24	-1.20	18.8
		520	7916	10.68	10243	47	165	1.13	-1.10	18.0
		560	8175	10.25	10444	45	149	1.05	-1.02	17.3
30	7000	400	7325	12.86	10132	53	240	1.51	-1.46	21.7
		440	7716	12.31	10418	51	214	1.36	-1.32	20.8
		480	8068	11.80	10681	49	192	1.24	-1.21	19.9
		520	8384	11.32	10922	47	173	1.14	-1.11	19.1
		560	8666	10.88	11140	46	156	1.05	-1.02	18.4
30	7500	440	8119	12.96	11053	52	223	1.37	-1.33	21.9
		480	8498	12.44	11335	50	200	1.25	-1.21	21.0
		520	8840	11.95	11593	48	181	1.14	-1.11	20.2
		560	9146	11.50	11828	47	164	1.06	-1.03	19.4
30	8000	440	8511	13.60	11681	52	232	1.37	-1.33	23.0
		480	8918	13.06	11980	50	208	1.25	-1.21	22.0
		520	9285	12.56	12256	49	188	1.15	-1.12	21.2
		560	9615	12.11	12508	47	171	1.06	-1.03	20.4
30	8500	440	8894	14.22	12303	53	240	1.37	-1.33	24.0
		480	9328	13.67	12620	51	216	1.25	-1.22	23.1
		520	9720	13.16	12912	49	196	1.15	-1.12	22.2
		560	10072	12.70	13180	48	178	1.06	-1.04	21.4
30	9000	480	9728	14.27	13252	52	224	1.25	-1.22	24.1
		520	10145	13.75	13562	50	203	1.15	-1.12	23.2
		560	10520	13.29	13844	49	185	1.07	-1.04	22.4
30	9500	480	10119	14.86	13880	52	231	1.26	-1.22	25.1
		520	10561	14.33	14205	51	210	1.16	-1.13	24.2
		560	10958	13.87	14503	49	191	1.07	-1.05	23.4
30	10000	480	10502	15.43	14502	53	238	1.26	-1.22	26.0
		520	10968	14.90	14843	51	216	1.16	-1.13	25.2
		560	11387	14.44	15155	50	198	1.08	-1.05	24.4
45	2000	360	1686	4.01	2616	53	88	2.03	-1.96	6.8
45	2500	360	2050	4.88	3233	55	101	2.02	-1.95	8.2
		400	2110	4.52	3271	53	86	1.82	-1.77	7.6
		440	2159	4.19	3303	52	75	1.66	-1.61	7.1
45	3000	360	2397	5.72	3840	56	113	2.01	-1.94	9.6
		400	2476	5.30	3890	54	97	1.81	-1.76	9.0
		440	2540	4.94	3931	53	84	1.65	-1.61	8.3
		480	2594	4.62	3966	52	74	1.52	-1.48	7.8
45	3500	360	2730	6.52	4439	57	125	1.99	-1.93	11.0
		400	2827	6.06	4499	55	107	1.80	-1.75	10.2
		440	2908	5.66	4551	54	94	1.65	-1.60	9.6
		480	2976	5.30	4594	53	82	1.51	-1.47	9.0
		520	3033	4.99	4631	52	73	1.40	-1.36	8.4
45	4000	360	3050	7.29	5030	58	135	1.98	-1.92	12.3
		400	3167	6.80	5102	56	117	1.80	-1.75	11.5
		440	3264	6.36	5163	55	102	1.64	-1.60	10.7
		480	3347	5.97	5215	54	90	1.51	-1.47	10.1
		520	3416	5.62	5260	53	80	1.39	-1.36	9.5
		560	3475	5.31	5299	52	71	1.30	-1.27	9.0

Table 6-15. (Sheet 7)

DIVE BOMBING TABLES
FOR
MK-84 2000-LB GP BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KT
45	4500	360	3358	8.03	5615	59	146	1.97	-1.91	13.6
		400	3495	7.51	5698	57	126	1.79	-1.74	12.7
		440	3610	7.04	5769	56	111	1.63	-1.59	11.9
		480	3707	6.62	5830	55	97	1.50	-1.47	11.2
		520	3790	6.25	5884	54	86	1.39	-1.36	10.5
		560	3861	5.91	5929	53	77	1.29	-1.27	10.0
45	5000	360	3656	8.75	6194	60	155	1.96	-1.90	14.8
		400	3813	8.20	6288	58	135	1.78	-1.73	13.8
		440	3945	7.70	6369	57	118	1.63	-1.59	13.0
		480	4059	7.26	6440	55	105	1.50	-1.46	12.2
		520	4155	6.85	6501	54	93	1.39	-1.36	11.6
		560	4238	6.49	6555	53	83	1.29	-1.27	11.0
45	5500	360	3945	9.45	6768	60	164	1.95	-1.89	15.9
		400	4121	8.87	6873	59	143	1.77	-1.73	15.0
		440	4272	8.35	6964	57	126	1.62	-1.58	14.1
		480	4401	7.88	7044	56	111	1.50	-1.46	13.3
		520	4512	7.45	7114	55	99	1.39	-1.36	12.6
		560	4607	7.06	7175	54	89	1.29	-1.26	11.9
45	6000	360	4225	10.13	7338	61	173	1.94	-1.88	17.1
		400	4422	9.53	7453	59	151	1.76	-1.72	16.1
		440	4590	8.98	7555	58	133	1.62	-1.58	15.2
		480	4735	8.48	7644	57	118	1.49	-1.46	14.3
		520	4861	8.03	7722	55	105	1.38	-1.35	13.6
		560	4969	7.63	7790	54	95	1.29	-1.26	12.9
45	6500	360	4497	10.79	7904	62	181	1.92	-1.87	18.2
		400	4714	10.16	8029	60	159	1.76	-1.71	17.2
		440	4901	9.59	8141	58	140	1.61	-1.57	16.2
		480	5062	9.08	8239	57	125	1.49	-1.45	15.3
		520	5202	8.61	8325	56	111	1.38	-1.35	14.5
		560	5323	8.18	8401	55	100	1.29	-1.26	13.8
45	7000	360	4761	11.43	8466	62	189	1.91	-1.87	19.3
		400	4999	10.79	8602	61	166	1.75	-1.71	18.2
		440	5204	10.20	8723	59	147	1.61	-1.57	17.2
		480	5382	9.66	8830	58	131	1.48	-1.45	16.3
		520	5536	9.17	8925	57	117	1.38	-1.35	15.5
		560	5671	8.73	9009	55	105	1.29	-1.26	14.7
45	7500	360	5019	12.06	9025	63	196	1.90	-1.86	20.4
		400	5277	11.39	9170	61	173	1.74	-1.70	19.2
		440	5501	10.79	9301	60	153	1.60	-1.56	18.2
		480	5695	10.23	9417	58	137	1.48	-1.45	17.3
		520	5864	9.72	9521	57	122	1.38	-1.35	16.4
		560	6012	9.26	9612	56	110	1.29	-1.26	15.6
45	8000	360	5271	12.67	9580	64	204	1.89	-1.85	21.4
		400	5549	11.99	9736	62	180	1.73	-1.69	20.2
		440	5791	11.36	9876	60	160	1.59	-1.56	19.2
		480	6002	10.79	10001	59	142	1.48	-1.44	18.2
		520	6186	10.26	10113	58	128	1.37	-1.34	17.3
		560	6347	9.79	10212	56	115	1.28	-1.26	16.5
45	8500	360	5517	13.27	10134	64	210	1.88	-1.84	22.4
		400	5815	12.57	10299	62	186	1.72	-1.68	21.2
		440	6075	11.93	10448	61	166	1.59	-1.55	20.1
		480	6302	11.34	10582	59	148	1.47	-1.44	19.1
		520	6502	10.80	10702	58	133	1.37	-1.34	18.2
		560	6676	10.32	10808	57	120	1.28	-1.26	17.4
45	9000	360	5758	13.86	10684	65	217	1.87	-1.83	23.4
		400	6075	13.15	10858	63	192	1.72	-1.68	22.2
		440	6353	12.49	11017	61	171	1.58	-1.55	21.1
		480	6598	11.88	11159	60	153	1.47	-1.44	20.0
		520	6812	11.32	11287	58	138	1.37	-1.34	19.1
		560	6999	10.84	11401	57	125	1.28	-1.26	18.3

Table 6-15. (Sheet 8)

DIVE BOMBING TABLES
FOR
MK-84 2000-LB GP BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
45	9500	360	5993	14.44	11232	65	223	1.86	-1.82	24.4
		400	6330	13.71	11416	63	198	1.71	-1.67	23.1
		440	6626	13.03	11583	62	177	1.58	-1.54	22.0
		480	6887	12.41	11734	60	159	1.46	-1.43	20.9
		520	7117	11.84	11870	59	143	1.36	-1.34	20.0
		560	7317	11.35	11991	58	130	1.28	-1.26	19.2
45	10000	360	6224	15.00	11778	66	229	1.85	-1.81	25.3
		400	6580	14.26	11971	64	204	1.70	-1.66	24.1
		440	6895	13.57	12146	62	182	1.57	-1.54	22.9
		480	7172	12.93	12306	61	164	1.46	-1.43	21.8
		520	7417	12.36	12450	59	148	1.36	-1.33	20.9
		560	7630	11.86	12578	58	134	1.28	-1.25	20.0
60	3000	360	1449	4.94	3332	67	75	2.29	-2.24	8.3
60	3500	360	1659	5.66	3873	68	83	2.27	-2.22	9.6
		400	1708	5.23	3895	67	71	2.07	-2.03	8.8
60	4000	360	1863	6.36	4413	68	89	2.24	-2.19	10.7
		400	1922	5.89	4438	67	77	2.05	-2.01	9.9
		440	1970	5.48	4459	66	67	1.89	-1.85	9.2
60	4500	360	2060	7.04	4949	69	96	2.21	-2.17	11.9
		400	2129	6.53	4978	68	83	2.03	-1.99	11.0
		440	2187	6.09	5003	67	72	1.87	-1.84	10.3
60	5000	360	2251	7.70	5484	69	102	2.19	-2.15	13.0
		400	2332	7.16	5517	68	88	2.01	-1.97	12.1
		440	2399	6.68	5546	67	77	1.86	-1.82	11.3
		480	2455	6.25	5570	66	68	1.72	-1.69	10.6
60	5500	360	2438	8.35	6016	70	107	2.17	-2.13	14.1
		400	2530	7.77	6054	69	94	1.99	-1.96	13.1
		440	2606	7.26	6086	68	82	1.84	-1.81	12.3
		480	2670	6.81	6114	67	73	1.71	-1.68	11.5
		520	2724	6.40	6138	66	65	1.60	-1.57	10.8
60	6000	360	2619	8.98	6547	70	113	2.15	-2.11	15.2
		400	2723	8.37	6589	69	99	1.98	-1.94	14.1
		440	2809	7.84	6625	68	87	1.83	-1.80	13.2
		480	2882	7.36	6656	67	77	1.70	-1.67	12.4
		520	2944	6.93	6683	67	68	1.59	-1.56	11.7
		560	2996	6.54	6706	66	61	1.49	-1.47	11.0
60	6500	360	2797	9.59	7076	71	118	2.13	-2.09	16.2
		400	2911	8.96	7122	70	103	1.96	-1.93	15.1
		440	3008	8.40	7162	69	91	1.82	-1.79	14.2
		480	3090	7.89	7197	68	81	1.69	-1.66	13.3
		520	3159	7.44	7227	67	72	1.58	-1.55	12.6
		560	3218	7.03	7253	66	65	1.48	-1.46	11.9
60	7000	360	2970	10.19	7604	71	123	2.11	-2.07	17.2
		400	3096	9.54	7654	70	108	1.94	-1.91	16.1
		440	3203	8.95	7698	69	95	1.80	-1.77	15.1
		480	3294	8.42	7736	68	85	1.68	-1.65	14.2
		520	3371	7.94	7769	67	76	1.57	-1.55	13.4
		560	3437	7.52	7798	67	68	1.48	-1.45	12.7
60	7500	360	3139	10.78	8130	72	128	2.09	-2.05	18.2
		400	3277	10.10	8185	70	112	1.93	-1.90	17.1
		440	3394	9.49	8232	69	99	1.79	-1.76	16.0
		480	3494	8.94	8274	68	88	1.67	-1.64	15.1
		520	3579	8.44	8310	68	79	1.56	-1.54	14.3
		560	3652	8.00	8342	67	71	1.47	-1.45	13.5

Table 6-15. (Sheet 9)

DIVE BOMBING TABLES
FOR
MK-84 2000-LB GP BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KT
60	8000	360	3305	11.36	8656	72	133	2.07	-2.03	19.2
		400	3454	10.66	8714	71	117	1.91	-1.88	18.0
		440	3582	10.02	8765	70	103	1.78	-1.75	16.9
		480	3691	9.45	8811	69	92	1.66	-1.64	16.0
		520	3785	8.94	8850	68	82	1.56	-1.53	15.1
		560	3864	8.48	8885	67	74	1.46	-1.44	14.3
60	8500	360	3467	11.92	9180	72	137	2.05	-2.02	20.1
		400	3628	11.20	9242	71	121	1.90	-1.87	18.9
		440	3767	10.55	9297	70	107	1.77	-1.74	17.8
		480	3885	9.95	9346	69	96	1.65	-1.63	16.8
		520	3987	9.42	9389	68	86	1.55	-1.53	15.9
		560	4074	8.95	9426	67	77	1.46	-1.44	15.1
60	9000	360	3626	12.48	9703	73	141	2.03	-2.00	21.1
		400	3799	11.74	9769	71	125	1.89	-1.86	19.8
		440	3948	11.06	9828	70	111	1.76	-1.73	18.7
		480	4076	10.45	9880	69	99	1.64	-1.62	17.6
		520	4186	9.90	9926	68	89	1.54	-1.52	16.7
		560	4280	9.42	9966	68	80	1.45	-1.43	15.9
60	9500	360	3782	13.02	10225	73	145	2.02	-1.98	22.0
		400	3967	12.26	10295	72	129	1.87	-1.84	20.7
		440	4126	11.57	10357	71	114	1.75	-1.72	19.5
		480	4264	10.94	10413	70	102	1.63	-1.61	18.5
		520	4382	10.38	10462	69	92	1.53	-1.51	17.5
		560	4483	9.89	10505	68	83	1.45	-1.43	16.7
60	10000	360	3935	13.56	10746	73	149	2.00	-1.97	22.9
		400	4132	12.78	10820	72	132	1.86	-1.83	21.6
		440	4302	12.07	10886	71	118	1.73	-1.71	20.4
		480	4449	11.43	10945	70	106	1.62	-1.60	19.3
		520	4576	10.85	10997	69	95	1.53	-1.51	18.3
		560	4684	10.35	11043	68	86	1.44	-1.43	17.5

Table 6-16. (Sheet 1)

LEVEL BOMBING TABLES
FOR
M117 750-LB GP BOMB

RELEASE ALT ABOVE TGT FT	RELEASE TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	WIND CORRECTION FACTORS TAIL MILS/KNOT	WIND CORRECTION FACTORS CROSS DRIFT FT/KNOT	WIND CORRECTION FACTORS CROSS CRAB
400	360	2808	4.68	2836	15	144	.41	-.39	7.9	.1
	400	3117	4.68	3143	14	130	.33	-.32	7.9	.1
	440	3426	4.68	3449	12	118	.28	-.26	7.9	.1
	480	3734	4.69	3756	11	108	.23	-.22	7.9	.1
	520	4042	4.69	4062	11	100	.20	-.19	7.9	.1
	560	4348	4.69	4367	10	93	.17	-.17	7.9	.2
500	360	3159	5.27	3198	17	159	.45	-.43	8.9	.1
	400	3506	5.27	3542	15	143	.37	-.35	8.9	.1
	440	3853	5.28	3886	14	131	.31	-.29	8.9	.1
	480	4200	5.28	4229	13	120	.26	-.25	8.9	.2
	520	4545	5.28	4573	12	111	.22	-.21	8.9	.2
	560	4889	5.29	4914	11	103	.19	-.18	8.9	.2
600	360	3476	5.81	3527	18	173	.49	-.47	9.8	.1
	400	3858	5.81	3904	17	156	.40	-.38	9.8	.2
	440	4239	5.81	4281	15	142	.33	-.32	9.8	.2
	480	4620	5.82	4658	14	131	.28	-.27	9.8	.2
	520	4999	5.82	5035	13	121	.24	-.23	9.8	.2
	560	5377	5.83	5410	12	112	.21	-.20	9.8	.2
700	360	3766	6.30	3831	20	186	.53	-.50	10.6	.2
	400	4180	6.31	4238	18	167	.43	-.41	10.6	.2
	440	4593	6.31	4646	16	153	.36	-.34	10.6	.2
	480	5005	6.31	5054	15	140	.30	-.29	10.7	.2
	520	5416	6.32	5461	14	130	.26	-.25	10.7	.2
	560	5824	6.32	5866	13	121	.22	-.22	10.7	.3
800	360	4037	6.76	4115	21	197	.56	-.53	11.4	.2
	400	4480	6.77	4551	19	178	.46	-.44	11.4	.2
	440	4922	6.77	4987	17	162	.38	-.36	11.4	.2
	480	5363	6.78	5422	16	149	.32	-.31	11.4	.3
	520	5803	6.78	5858	15	138	.27	-.26	11.4	.3
	560	6239	6.79	6291	14	129	.24	-.23	11.5	.3
900	360	4291	7.20	4384	22	208	.59	-.56	12.1	.2
	400	4761	7.20	4846	20	188	.48	-.46	12.2	.2
	440	5231	7.21	5307	18	172	.40	-.38	12.2	.3
	480	5699	7.21	5769	17	158	.34	-.33	12.2	.3
	520	6166	7.22	6231	16	146	.29	-.28	12.2	.3
	560	6629	7.22	6690	15	136	.25	-.24	12.2	.4
1000	360	4530	7.60	4639	23	219	.62	-.59	12.8	.3
	400	5027	7.61	5125	21	198	.51	-.48	12.8	.3
	440	5522	7.62	5612	19	180	.42	-.40	12.9	.3
	480	6016	7.62	6098	18	166	.36	-.34	12.9	.3
	520	6508	7.63	6585	17	153	.31	-.29	12.9	.4
	560	6997	7.63	7068	16	143	.26	-.26	12.9	.4
1100	400	5278	8.00	5392	22	207	.53	-.50	13.5	.3
	440	5799	8.01	5902	20	189	.44	-.42	13.5	.3
	480	6317	8.01	6412	19	173	.37	-.36	13.5	.4
	520	6833	8.02	6921	18	161	.32	-.31	13.5	.4
	560	7346	8.03	7427	16	149	.28	-.27	13.5	.4
1200	400	5520	8.37	5649	23	215	.55	-.52	14.1	.3
	440	6063	8.38	6180	21	197	.46	-.44	14.1	.4
	480	6604	8.39	6712	20	181	.39	-.37	14.2	.4
	520	7144	8.39	7244	18	167	.33	-.32	14.2	.4
	560	7678	8.40	7772	17	156	.29	-.28	14.2	.5

Table 6-16. (Sheet 2)

LEVEL BOMBING TABLES
FOR
M117 750-LB GP BOMB

RELEASE ALT ABOVE TGT FT	RELEASE TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	WIND CORRECTION FACTORS TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CRAB
1300	400	5750	8.73	5896	24	224	.57	-.54	14.7	.4
	440	6316	8.74	6448	22	204	.47	-.45	14.8	.4
	480	6879	8.75	7001	20	188	.40	-.39	14.8	.4
	520	7441	8.75	7554	19	174	.35	-.33	14.8	.5
	560	7997	8.76	8102	18	162	.30	-.29	14.8	.5
1400	440	6559	9.09	6707	23	211	.49	-.47	15.3	.4
	480	7144	9.09	7280	21	194	.42	-.40	15.3	.5
	520	7726	9.10	7852	20	180	.36	-.34	15.4	.5
	560	8303	9.11	8421	18	168	.31	-.30	15.4	.5
1500	440	6793	9.42	6957	24	218	.51	-.48	15.9	.5
	480	7398	9.43	7549	22	201	.43	-.41	15.9	.5
	520	8002	9.44	8141	20	186	.37	-.36	15.9	.5
	560	8599	9.45	8728	19	173	.32	-.31	15.9	.6
1600	480	7645	9.75	7810	22	207	.44	-.43	16.5	.5
	520	8267	9.76	8421	21	192	.38	-.37	16.5	.6
	560	8884	9.77	9026	20	179	.33	-.32	16.5	.6
1700	480	7883	10.07	8064	23	213	.46	-.44	17.0	.6
	520	8525	10.07	8693	22	198	.39	-.38	17.0	.6
	560	9159	10.09	9316	20	184	.34	-.33	17.0	.7
1800	480	8114	10.37	8311	24	219	.47	-.45	17.5	.6
	520	8774	10.38	8957	22	203	.40	-.39	17.5	.6
	560	9427	10.39	9597	21	189	.35	-.34	17.5	.7
1900	520	9017	10.68	9215	23	208	.41	-.40	18.0	.7
	560	9687	10.69	9871	21	194	.36	-.35	18.0	.7
2000	520	9253	10.97	9466	23	214	.42	-.41	18.5	.7
	560	9939	10.98	10139	22	199	.37	-.36	18.5	.8

Table 6-16. (Sheet 3)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
5	1000	360	3683	6.19	3816	24	180	.74	-.71	10.5
		400	4000	6.06	4124	22	159	.62	-.59	10.2
		440	4302	5.93	4417	20	143	.53	-.51	10.0
		480	4590	5.81	4697	19	129	.46	-.44	9.8
		520	4863	5.69	4965	17	117	.40	-.39	9.6
		560	5122	5.57	5218	16	107	.35	-.34	9.4
5	1500	360	4706	7.95	4939	28	223	.85	-.81	13.4
		400	5130	7.81	5345	26	198	.71	-.68	13.2
		440	5537	7.68	5737	24	178	.61	-.58	13.0
		480	5928	7.55	6115	22	162	.52	-.50	12.7
		520	6303	7.42	6479	21	147	.46	-.44	12.5
		560	6660	7.29	6827	20	135	.41	-.39	12.3
5	2000	440	6582	9.17	6879	27	209	.67	-.64	15.5
		480	7062	9.03	7340	25	190	.58	-.56	15.2
		520	7525	8.90	7786	24	173	.51	-.49	15.0
		560	7966	8.78	8214	22	159	.45	-.43	14.8
5	2500	480	8062	10.35	8441	28	214	.63	-.60	17.5
		520	8602	10.22	8958	26	196	.55	-.53	17.2
		560	9119	10.09	9455	25	181	.49	-.47	17.0
5	3000	520	9577	11.42	10036	28	217	.59	-.57	19.3
		560	10160	11.30	10594	27	200	.52	-.50	19.1
10	1000	360	3001	5.10	3163	25	149	.89	-.85	8.6
		400	3200	4.90	3352	23	130	.76	-.72	8.3
		440	3380	4.70	3525	22	115	.66	-.63	7.9
		480	3543	4.52	3682	21	102	.58	-.56	7.6
		520	3692	4.35	3825	20	92	.52	-.50	7.3
		560	3826	4.19	3955	19	83	.46	-.45	7.1
10	1500	360	3963	6.76	4238	30	189	.98	-.94	11.4
		400	4252	6.54	4509	27	166	.84	-.80	11.0
		440	4519	6.32	4761	25	147	.73	-.70	10.7
		480	4765	6.11	4996	24	132	.64	-.61	10.3
		520	4992	5.92	5213	23	119	.56	-.54	10.0
		560	5201	5.73	5413	21	107	.51	-.49	9.7
10	2000	360	4788	8.20	5189	33	222	1.06	-1.01	13.8
		400	5158	7.96	5532	30	197	.90	-.86	13.4
		440	5503	7.73	5855	28	175	.78	-.75	13.0
		480	5825	7.51	6159	27	157	.68	-.66	12.7
		520	6125	7.30	6443	25	142	.61	-.59	12.3
		560	6402	7.10	6707	24	129	.54	-.53	12.0
10	2500	400	5964	9.24	6467	33	223	.96	-.92	15.6
		440	6381	9.00	6853	31	200	.83	-.79	15.2
		480	6772	8.76	7219	29	180	.73	-.70	14.8
		520	7139	8.54	7564	27	163	.64	-.62	14.4
		560	7480	8.33	7886	26	149	.58	-.56	14.1
10	3000	440	7180	10.16	7781	33	222	.87	-.84	17.1
		480	7636	9.92	8204	31	201	.76	-.73	16.7
		520	8066	9.69	8606	29	182	.68	-.65	16.3
		560	8465	9.47	8981	28	167	.61	-.59	16.0
10	3500	480	8434	10.99	9131	33	220	.80	-.77	18.5
		520	8923	10.75	9585	31	200	.71	-.68	18.1
		560	9376	10.54	10008	30	183	.63	-.61	17.8

Table 6-16. (Sheet 4)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
10	4000	520	9724	11.75	10514	33	216	.73	-.71	19.8
		560	10228	11.54	10982	31	199	.66	-.64	19.5
10	4500	560	11029	12.49	11912	33	213	.68	-.66	21.1
15	1000	360	2466	4.27	2661	28	126	1.05	-1.00	7.2
		400	2591	4.04	2777	26	109	.91	-.87	6.8
		440	2700	3.83	2879	25	95	.80	-.77	6.5
		480	2795	3.63	2969	23	84	.72	-.69	6.1
		520	2878	3.45	3047	23	74	.64	-.62	5.8
		560	2951	3.29	3116	22	67	.59	-.57	5.5
15	1500	360	3345	5.82	3666	31	162	1.13	-1.08	9.8
		400	3542	5.54	3846	29	140	.98	-.93	9.4
		440	3716	5.29	4008	28	123	.86	-.82	8.9
		480	3872	5.05	4152	26	109	.76	-.73	8.5
		520	4011	4.83	4282	25	97	.68	-.66	8.2
		560	4134	4.63	4398	24	88	.62	-.60	7.8
15	2000	360	4113	7.18	4574	35	192	1.19	-1.14	12.1
		400	4377	6.88	4812	32	168	1.03	-.99	11.6
		440	4615	6.60	5030	30	148	.90	-.87	11.1
		480	4830	6.33	5228	29	132	.80	-.77	10.7
		520	5024	6.08	5408	27	118	.72	-.69	10.3
		560	5198	5.85	5570	26	107	.65	-.63	9.9
15	2500	360	4803	8.41	5415	37	219	1.24	-1.19	14.2
		400	5130	8.09	5707	35	193	1.08	-1.03	13.7
		440	5429	7.79	5977	33	171	.94	-.91	13.1
		480	5700	7.50	6224	31	153	.84	-.80	12.7
		520	5949	7.23	6453	29	137	.75	-.72	12.2
		560	6172	6.98	6659	28	124	.68	-.66	11.8
15	3000	360	5434	9.54	6207	40	244	1.29	-1.23	16.1
		400	5821	9.20	6549	37	215	1.11	-1.07	15.5
		440	6177	8.89	6867	35	191	.98	-.94	15.0
		480	6503	8.59	7162	33	171	.87	-.84	14.5
		520	6804	8.30	7436	31	154	.78	-.75	14.0
		560	7075	8.04	7684	30	140	.70	-.68	13.6
15	3500	400	6462	10.25	7349	39	236	1.15	-1.10	17.3
		440	6872	9.92	7712	37	210	1.01	-.97	16.7
		480	7251	9.60	8052	35	189	.89	-.86	16.2
		520	7602	9.30	8369	33	170	.80	-.77	15.7
		560	7918	9.04	8657	31	155	.73	-.70	15.3
15	4000	440	7525	10.89	8522	38	228	1.03	-1.00	18.4
		480	7954	10.57	8903	36	205	.92	-.89	17.8
		520	8353	10.26	9261	34	186	.82	-.80	17.3
		560	8713	9.98	9587	33	169	.75	-.72	16.8
15	4500	480	8619	11.48	9723	38	220	.94	-.91	19.4
		520	9064	11.16	10119	36	200	.84	-.82	18.8
		560	9465	10.89	10480	34	183	.77	-.74	18.4
15	5000	520	9740	12.03	10949	37	213	.86	-.83	20.3
		560	10180	11.75	11342	36	195	.78	-.76	19.8
15	5500	520	10387	12.86	11753	38	226	.88	-.85	21.7
		560	10864	12.59	12177	37	207	.80	-.78	21.2

Table 6-16. (Sheet 5)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
15	6000	560	11518	13.39	12987	38	219	.82	-.79	22.6
20	1000	360	2048	3.65	2279	31	108	1.23	-1.17	6.2
		400	2129	3.41	2352	29	93	1.07	-1.03	5.8
		440	2197	3.20	2414	28	81	.95	-.92	5.4
		480	2255	3.01	2467	27	71	.86	-.83	5.1
		520	2304	2.84	2512	26	63	.78	-.75	4.8
		560	2346	2.68	2551	25	56	.71	-.69	4.5
20	1500	360	2836	5.07	3208	34	139	1.29	-1.23	8.6
		400	2971	4.78	3328	32	120	1.12	-1.08	8.1
		440	3087	4.51	3432	31	105	1.00	-.96	7.6
		480	3188	4.27	3523	29	92	.89	-.86	7.2
		520	3275	4.05	3602	28	82	.81	-.78	6.8
		560	3351	3.85	3671	27	73	.74	-.72	6.5
20	2000	360	3537	6.34	4064	37	167	1.33	-1.27	10.7
		400	3726	6.01	4229	35	145	1.17	-1.12	10.1
		440	3892	5.71	4376	33	127	1.03	-.99	9.6
		480	4037	5.43	4505	32	112	.92	-.89	9.2
		520	4165	5.17	4620	30	100	.84	-.81	8.7
		560	4277	4.94	4721	29	90	.76	-.74	8.3
20	2500	360	4175	7.51	4866	39	192	1.37	-1.31	12.7
		400	4416	7.15	5075	37	167	1.20	-1.15	12.1
		440	4631	6.82	5262	35	147	1.06	-1.02	11.5
		480	4821	6.51	5431	34	130	.95	-.92	11.0
		520	4990	6.22	5581	32	116	.86	-.83	10.5
		560	5139	5.96	5715	31	105	.79	-.76	10.1
20	3000	360	4763	8.59	5629	41	214	1.41	-1.35	14.5
		400	5056	8.21	5879	39	188	1.23	-1.18	13.9
		440	5317	7.85	6105	37	166	1.09	-1.05	13.3
		480	5552	7.52	6311	35	147	.98	-.94	12.7
		520	5762	7.21	6497	34	132	.88	-.85	12.2
		560	5948	6.93	6662	32	119	.81	-.78	11.7
20	3500	360	5312	9.60	6361	43	235	1.44	-1.38	16.2
		400	5653	9.20	6649	41	206	1.26	-1.21	15.5
		440	5961	8.83	6913	39	183	1.12	-1.07	14.9
		480	6239	8.48	7154	37	163	1.00	-.96	14.3
		520	6490	8.14	7374	35	146	.90	-.87	13.7
		560	6713	7.85	7570	34	132	.82	-.80	13.2
20	4000	400	6216	10.15	7392	42	224	1.28	-1.23	17.1
		440	6569	9.75	7691	40	199	1.14	-1.10	16.5
		480	6889	9.39	7966	38	178	1.02	-.98	15.8
		520	7181	9.04	8220	37	160	.92	-.89	15.3
		560	7438	8.73	8445	35	145	.84	-.82	14.7
20	4500	400	6749	11.04	8112	44	240	1.30	-1.25	18.6
		440	7146	10.64	8444	42	214	1.16	-1.12	18.0
		480	7507	10.25	8753	40	192	1.04	-1.00	17.3
		520	7838	9.89	9038	38	173	.94	-.91	16.7
		560	8130	9.58	9292	37	157	.86	-.83	16.2
20	5000	440	7696	11.48	9177	43	228	1.17	-1.13	19.4
		480	8098	11.09	9517	41	205	1.05	-1.02	18.7
		520	8467	10.72	9833	39	185	.95	-.92	18.1
		560	8791	10.40	10114	38	169	.87	-.85	17.6

Table 6-16. (Sheet 6)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
20	5500	440	8222	12.30	9892	44	241	1.19	-1.15	20.8
		480	8664	11.89	10262	42	217	1.07	-1.03	20.1
		520	9070	11.51	10607	40	197	.97	-.94	19.4
		560	9426	11.19	10914	39	180	.89	-.86	18.9
20	6000	480	9208	12.67	10990	43	229	1.08	-1.05	21.4
		520	9650	12.28	11363	41	208	.98	-.95	20.7
		560	10037	11.96	11694	40	190	.90	-.87	20.2
20	6500	520	10210	13.03	12103	42	218	.99	-.96	22.0
		560	10626	12.71	12456	41	200	.91	-.89	21.4
20	7000	520	10750	13.75	12829	43	229	1.00	-.97	23.2
		560	11195	13.44	13203	42	210	.93	-.90	22.7
20	7500	560	11745	14.15	13936	43	220	.94	-.91	23.9
20	8000	560	12279	14.84	14655	44	229	.95	-.92	25.1
25	1000	360	1718	3.17	1987	34	94	1.40	-1.34	5.4
		400	1772	2.94	2034	33	80	1.24	-1.19	5.0
		440	1816	2.74	2073	32	70	1.11	-1.07	4.6
25	1500	360	2416	4.48	2844	37	122	1.44	-1.38	7.6
		400	2510	4.18	2924	35	104	1.27	-1.22	7.1
		440	2589	3.92	2993	34	91	1.14	-1.10	6.6
		480	2657	3.69	3051	33	80	1.03	-.99	6.2
		520	2714	3.48	3101	32	70	.94	-.91	5.9
		560	2763	3.29	3144	31	63	.86	-.84	5.6
25	2000	360	3048	5.67	3645	40	146	1.48	-1.42	9.6
		400	3184	5.33	3760	38	126	1.30	-1.25	9.0
		440	3301	5.02	3860	36	110	1.16	-1.12	8.5
		480	3401	4.74	3946	35	97	1.05	-1.01	8.0
		520	3488	4.49	4021	34	86	.96	-.93	7.6
		560	3562	4.26	4085	33	77	.88	-.85	7.2
25	2500	360	3629	6.77	4407	42	168	1.51	-1.45	11.4
		400	3808	6.39	4555	40	146	1.33	-1.28	10.8
		440	3963	6.04	4686	38	128	1.19	-1.15	10.2
		480	4098	5.73	4801	37	113	1.07	-1.04	9.7
		520	4216	5.44	4901	35	100	.98	-.94	9.2
		560	4317	5.18	4989	34	90	.90	-.87	8.7
25	3000	360	4169	7.79	5136	44	189	1.53	-1.47	13.2
		400	4391	7.39	5318	42	164	1.35	-1.30	12.5
		440	4585	7.01	5479	40	144	1.21	-1.17	11.8
		480	4755	6.67	5622	38	128	1.09	-1.05	11.3
		520	4904	6.35	5749	37	114	.99	-.96	10.7
		560	5034	6.07	5860	36	102	.91	-.88	10.2
25	3500	360	4676	8.76	5841	45	207	1.55	-1.49	14.8
		400	4939	8.33	6054	43	181	1.37	-1.32	14.1
		440	5171	7.93	6245	41	160	1.23	-1.18	13.4
		480	5377	7.56	6416	40	142	1.11	-1.07	12.8
		520	5559	7.22	6569	38	127	1.01	-.98	12.2
		560	5716	6.92	6703	37	114	.93	-.90	11.7
25	4000	360	5155	9.68	6525	47	225	1.57	-1.51	16.3
		400	5459	9.23	6768	45	197	1.39	-1.34	15.6
		440	5729	8.81	6987	43	174	1.24	-1.20	14.9
		480	5969	8.42	7185	41	155	1.12	-1.09	14.2
		520	6183	8.05	7364	39	139	1.02	-.99	13.6
		560	6369	7.73	7521	38	125	.94	-.91	13.1

Table 6-16. (Sheet 7)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
25	4500	360	5610	10.56	7192	48	241	1.59	-1.52	17.8
		400	5954	10.09	7463	46	212	1.40	-1.35	17.0
		440	6261	9.65	7710	44	188	1.26	-1.22	16.3
		480	6536	9.24	7935	42	167	1.14	-1.10	15.6
		520	6782	8.86	8139	40	150	1.03	-1.00	14.9
		560	6996	8.53	8318	39	136	.95	-.92	14.4
25	5000	360	6044	11.40	7844	50	256	1.60	-1.54	19.2
		400	6426	10.92	8142	47	226	1.42	-1.37	18.4
		440	6770	10.46	8416	45	201	1.27	-1.23	17.7
		480	7079	10.03	8667	43	179	1.15	-1.11	16.9
		520	7357	9.63	8895	42	161	1.05	-1.01	16.3
		560	7598	9.29	9096	40	146	.96	-.94	15.7
25	5500	400	6880	11.71	8808	48	239	1.43	-1.38	19.8
		440	7259	11.24	9108	46	213	1.28	-1.24	19.0
		480	7602	10.80	9383	44	191	1.16	-1.12	18.2
		520	7912	10.39	9635	43	172	1.06	-1.03	17.5
		560	8179	10.04	9857	41	156	.98	-.95	16.9
25	6000	400	7316	12.48	9462	50	251	1.44	-1.39	21.1
		440	7731	12.00	9786	47	224	1.29	-1.25	20.2
		480	8107	11.54	10086	45	201	1.17	-1.13	19.5
		520	8447	11.12	10361	44	182	1.07	-1.04	18.8
		560	8740	10.77	10602	42	166	.99	-.96	18.2
25	6500	440	8186	12.73	10453	48	235	1.30	-1.26	21.5
		480	8595	12.26	10776	46	212	1.18	-1.14	20.7
		520	8965	11.83	11073	45	192	1.08	-1.05	20.0
		560	9283	11.48	11333	43	175	1.00	-.97	19.4
25	7000	440	8627	13.44	11109	49	246	1.31	-1.27	22.7
		480	9067	12.96	11455	47	222	1.19	-1.15	21.9
		520	9466	12.53	11773	45	201	1.08	-1.05	21.1
		560	9809	12.18	12051	44	184	1.01	-.98	20.6
25	7500	480	9526	13.64	12124	48	231	1.19	-1.16	23.0
		520	9954	13.21	12463	46	210	1.09	-1.06	22.3
		560	10320	12.86	12757	45	193	1.02	-.99	21.7
25	8000	480	9971	14.31	12784	49	240	1.20	-1.17	24.2
		520	10427	13.87	13142	47	219	1.10	-1.07	23.4
		560	10816	13.53	13453	46	201	1.02	-1.00	22.8
25	8500	520	10888	14.53	13813	48	227	1.11	-1.08	24.5
		560	11298	14.18	14138	47	209	1.03	-1.01	23.9
25	9000	520	11337	15.17	14475	49	235	1.12	-1.09	25.6
		560	11767	14.83	14815	47	217	1.04	-1.01	25.0
25	9500	560	12225	15.46	15482	48	225	1.05	-1.02	26.1
25	10000	560	12670	16.09	16141	49	232	1.06	-1.03	27.2
30	1000	360	1452	2.81	1763	38	83	1.58	-1.51	4.7
30	1500	360	2066	4.01	2553	40	107	1.60	-1.54	6.8
		400	2133	3.72	2608	39	91	1.42	-1.37	6.3
		440	2189	3.47	2654	38	79	1.28	-1.23	5.9
		480	2236	3.25	2692	37	69	1.16	-1.12	5.5

Table 6-16. (Sheet 8)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE	REL ALT ABOVE TGT	REL TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KNOT
30	2000	360	2630	5.12	3304	43	129	1.63	-1.56	8.6
		400	2730	4.78	3384	41	110	1.44	-1.39	8.1
		440	2814	4.48	3452	40	96	1.30	-1.25	7.6
		480	2885	4.21	3511	38	84	1.18	-1.14	7.1
		520	2945	3.96	3560	37	75	1.08	-1.04	6.7
		560	2996	3.75	3603	37	67	.99	-.97	6.3
30	2500	360	3153	6.16	4024	45	148	1.64	-1.58	10.4
		400	3288	5.77	4130	43	128	1.46	-1.41	9.7
		440	3402	5.43	4222	41	112	1.31	-1.27	9.2
		480	3499	5.12	4300	40	98	1.19	-1.15	8.6
		520	3583	4.83	4369	39	87	1.09	-1.06	8.2
		560	3654	4.58	4427	38	78	1.01	-.98	7.7
30	3000	360	3644	7.13	4720	46	167	1.66	-1.60	12.0
		400	3813	6.71	4852	44	144	1.48	-1.42	11.3
		440	3958	6.33	4966	43	126	1.33	-1.28	10.7
		480	4083	5.99	5066	41	111	1.20	-1.17	10.1
		520	4191	5.67	5154	40	99	1.10	-1.07	9.6
		560	4283	5.39	5229	39	89	1.02	-.99	9.1
30	3500	360	4107	8.06	5396	48	183	1.67	-1.61	13.6
		400	4310	7.61	5553	46	160	1.49	-1.44	12.8
		440	4487	7.20	5690	44	140	1.34	-1.30	12.1
		480	4640	6.82	5812	43	124	1.22	-1.18	11.5
		520	4773	6.48	5919	41	110	1.11	-1.08	10.9
		560	4687	6.18	6011	40	99	1.03	-1.00	10.4
30	4000	360	4547	8.94	6056	49	199	1.68	-1.62	15.1
		400	4784	8.46	6236	47	174	1.50	-1.45	14.3
		440	4992	8.03	6397	45	153	1.35	-1.31	13.5
		480	5173	7.63	6539	44	136	1.23	-1.19	12.9
		520	5332	7.26	6666	42	121	1.12	-1.09	12.2
		560	5469	6.94	6776	41	109	1.04	-1.01	11.7
30	4500	360	4966	9.78	6701	51	214	1.69	-1.63	16.5
		400	5237	9.29	6905	48	187	1.51	-1.46	15.7
		440	5476	8.83	7088	47	165	1.36	-1.32	14.9
		480	5686	8.40	7251	45	147	1.24	-1.20	14.2
		520	5871	8.01	7397	43	131	1.13	-1.10	13.5
		560	6030	7.68	7524	42	118	1.05	-1.02	13.0
30	5000	360	5367	10.60	7335	52	227	1.70	-1.64	17.9
		400	5672	10.08	7561	50	200	1.52	-1.47	17.0
		440	5942	9.60	7766	48	177	1.37	-1.32	16.2
		480	6180	9.15	7950	46	157	1.24	-1.21	15.5
		520	6391	8.75	8115	44	141	1.14	-1.11	14.8
		560	6572	8.40	8258	43	128	1.06	-1.03	14.2
30	5500	360	5752	11.38	7959	53	240	1.70	-1.64	19.2
		400	6090	10.84	8206	51	212	1.52	-1.47	18.3
		440	6390	10.35	8431	49	188	1.38	-1.33	17.5
		480	6657	9.88	8635	47	168	1.25	-1.21	16.7
		520	6894	9.46	8820	45	150	1.15	-1.12	16.0
		560	7097	9.10	8979	44	136	1.06	-1.04	15.4
30	6000	360	6124	12.14	8573	54	252	1.70	-1.65	20.5
		400	6494	11.59	8841	52	223	1.53	-1.48	19.6
		440	6824	11.07	9087	50	198	1.38	-1.34	18.7
		480	7119	10.59	9310	48	177	1.26	-1.22	17.9
		520	7382	10.15	9513	46	160	1.15	-1.12	17.1
		560	7606	9.79	9688	45	145	1.07	-1.04	16.5

Table 6-16. (Sheet 9)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE	REL ALT ABOVE TGT	REL TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KNOT
30	6500	400	6884	12.30	9468	53	234	1.53	-1.48	20.8
		440	7244	11.78	9733	51	208	1.39	-1.35	19.9
		480	7567	11.28	9976	49	187	1.26	-1.23	19.0
		520	7855	10.83	10196	47	168	1.16	-1.13	18.3
		560	8100	10.46	10386	46	153	1.08	-1.05	17.7
30	7000	400	7262	13.00	10087	53	244	1.54	-1.49	21.9
		440	7652	12.46	10371	51	218	1.39	-1.35	21.0
		480	8002	11.95	10632	49	196	1.27	-1.23	20.2
		520	8315	11.50	10869	48	177	1.17	-1.14	19.4
		560	8580	11.12	11074	47	161	1.09	-1.06	18.8
30	7500	400	7629	13.68	10698	54	254	1.54	-1.49	23.1
		440	8047	13.13	11001	52	227	1.40	-1.36	22.2
		480	8425	12.61	11280	50	204	1.27	-1.24	21.3
		520	8762	12.15	11534	49	185	1.17	-1.14	20.5
		560	9048	11.77	11752	47	169	1.09	-1.07	19.9
30	8000	440	8433	13.78	11624	53	236	1.40	-1.36	23.3
		480	8837	13.25	11920	51	213	1.28	-1.24	22.4
		520	9198	12.79	12190	49	193	1.18	-1.15	21.6
		560	9503	12.41	12422	48	177	1.10	-1.07	20.9
30	8500	440	8808	14.42	12241	54	245	1.40	-1.36	24.3
		480	9238	13.89	12554	52	221	1.28	-1.25	23.4
		520	9623	13.41	12840	50	200	1.18	-1.15	22.6
		560	9947	13.04	13084	49	184	1.11	-1.08	22.0
30	9000	480	9630	14.50	13181	52	228	1.29	-1.25	24.5
		520	10038	14.03	13482	51	208	1.19	-1.16	23.7
		560	10379	13.66	13738	50	191	1.11	-1.09	23.1
30	9500	480	10013	15.11	13803	53	236	1.29	-1.26	25.5
		520	10443	14.64	14117	51	215	1.19	-1.16	24.7
		560	10802	14.28	14385	50	198	1.12	-1.09	24.1
30	10000	480	10387	15.71	14419	54	243	1.29	-1.26	26.5
		520	10838	15.24	14747	52	222	1.20	-1.17	25.7
		560	11214	14.88	15025	51	205	1.13	-1.10	25.1
35	1500	360	1771	3.64	2321	44	94	1.76	-1.69	6.1
		400	1820	3.36	2359	43	81	1.57	-1.51	5.7
35	2000	360	2270	4.68	3025	46	113	1.77	-1.70	7.9
		400	2344	4.34	3082	45	97	1.58	-1.52	7.3
		440	2406	4.05	3129	43	84	1.43	-1.38	6.8
		480	2458	3.79	3169	42	74	1.30	-1.26	6.4
35	2500	360	2737	5.65	3707	48	131	1.78	-1.71	9.5
		400	2839	5.27	3783	46	113	1.59	-1.53	8.9
		440	2924	4.93	3847	45	98	1.44	-1.39	8.3
		480	2996	4.63	3902	44	86	1.31	-1.27	7.8
		520	3056	4.36	3949	43	76	1.20	-1.17	7.4
		560	3108	4.12	3988	42	68	1.11	-1.08	7.0
35	3000	360	3178	6.58	4370	49	147	1.78	-1.72	11.1
		400	3308	6.16	4466	48	127	1.60	-1.54	10.4
		440	3417	5.78	4547	46	111	1.44	-1.40	9.8
		480	3511	5.44	4618	45	98	1.32	-1.28	9.2
		520	3590	5.13	4679	44	86	1.21	-1.18	8.7
		560	3657	4.87	4730	43	77	1.12	-1.09	8.2

Table 6-16. (Sheet 10)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
35	3500	360	3596	7.46	5018	51	162	1.79	-1.73	12.6
		400	3754	7.01	5133	49	141	1.60	-1.55	11.8
		440	3889	6.60	5232	47	123	1.45	-1.41	11.1
		480	4005	6.22	5319	46	108	1.32	-1.28	10.5
		520	4104	5.89	5394	45	96	1.22	-1.18	9.9
		560	4188	5.59	5458	44	86	1.13	-1.10	9.4
35	4000	360	3995	8.31	5653	52	176	1.79	-1.73	14.0
		400	4182	7.82	5787	50	153	1.61	-1.56	13.2
		440	4342	7.38	5904	48	135	1.46	-1.41	12.5
		480	4481	6.98	6007	47	119	1.33	-1.29	11.8
		520	4601	6.62	6096	46	106	1.22	-1.19	11.2
		560	4702	6.30	6173	45	95	1.13	-1.10	10.6
35	4500	360	4377	9.12	6277	53	189	1.79	-1.73	15.4
		400	4592	8.61	6430	51	165	1.61	-1.56	14.5
		440	4779	8.14	6564	49	145	1.46	-1.42	13.7
		480	4940	7.71	6683	48	129	1.33	-1.30	13.0
		520	5081	7.32	6787	47	115	1.23	-1.19	12.4
		560	5200	6.99	6877	46	103	1.14	-1.11	11.8
35	5000	360	4743	9.91	6892	54	202	1.79	-1.73	16.7
		400	4987	9.37	7062	52	177	1.61	-1.56	15.8
		440	5199	8.88	7214	50	156	1.46	-1.42	15.0
		480	5385	8.43	7348	49	138	1.34	-1.30	14.2
		520	5546	8.02	7467	48	124	1.23	-1.20	13.5
		560	5683	7.67	7570	46	111	1.15	-1.12	12.9
35	5500	360	5096	10.66	7498	55	214	1.79	-1.74	18.0
		400	5368	10.11	7686	53	187	1.62	-1.57	17.1
		440	5607	9.59	7854	51	166	1.47	-1.43	16.2
		480	5815	9.12	8004	50	147	1.34	-1.31	15.4
		520	5998	8.69	8138	48	132	1.24	-1.20	14.7
		560	6153	8.33	8253	47	119	1.15	-1.12	14.1
35	6000	360	5437	11.40	8097	56	225	1.79	-1.74	19.2
		400	5737	10.82	8301	54	198	1.62	-1.57	18.3
		440	6001	10.29	8486	52	175	1.47	-1.43	17.4
		480	6233	9.80	8652	51	156	1.35	-1.31	16.5
		520	6437	9.35	8800	49	140	1.24	-1.21	15.8
		560	6610	8.98	8927	48	127	1.16	-1.13	15.2
35	6500	360	5767	12.11	8689	57	235	1.79	-1.74	20.4
		400	6094	11.52	8910	55	207	1.62	-1.57	19.4
		440	6384	10.97	9111	53	184	1.47	-1.43	18.5
		480	6640	10.46	9292	51	165	1.35	-1.31	17.6
		520	6865	10.00	9454	50	148	1.25	-1.21	16.9
		560	7054	9.62	9593	49	134	1.16	-1.13	16.2
35	7000	360	6086	12.80	9276	58	245	1.79	-1.73	21.6
		400	6441	12.19	9513	56	217	1.62	-1.57	20.6
		440	6756	11.63	9728	54	193	1.47	-1.43	19.6
		480	7035	11.10	9924	52	173	1.35	-1.32	18.7
		520	7281	10.63	10100	51	155	1.25	-1.22	17.9
		560	7488	10.25	10250	49	141	1.17	-1.14	17.3
35	7500	360	6396	13.48	9857	59	254	1.78	-1.73	22.7
		400	6778	12.85	10109	56	226	1.62	-1.57	21.7
		440	7118	12.27	10340	55	201	1.48	-1.43	20.7
		480	7421	11.73	10551	53	180	1.35	-1.32	19.8
		520	7687	11.26	10740	51	163	1.25	-1.22	19.0
		560	7911	10.87	10901	50	148	1.17	-1.15	18.3

Table 6-16. (Sheet 11)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
35	8000	360	6698	14.13	10434	59	264	1.78	-1.73	23.9
		400	7107	13.50	10701	57	234	1.62	-1.57	22.8
		440	7471	12.90	10946	55	209	1.48	-1.44	21.8
		480	7797	12.35	11171	53	188	1.36	-1.32	20.8
		520	8084	11.87	11373	52	170	1.26	-1.23	20.0
		560	8324	11.48	11545	51	155	1.18	-1.15	19.4
35	8500	400	7427	14.13	11288	58	242	1.61	-1.57	23.8
		440	7816	13.52	11547	56	217	1.48	-1.44	22.8
		480	8164	12.96	11786	54	195	1.36	-1.32	21.9
		520	8471	12.47	12000	53	177	1.26	-1.23	21.0
		560	8727	12.08	12183	51	162	1.18	-1.16	20.4
35	9000	400	7739	14.74	11870	58	250	1.61	-1.57	24.9
		440	8153	14.12	12144	56	224	1.48	-1.44	23.8
		480	8523	13.56	12395	55	202	1.36	-1.33	22.9
		520	8850	13.07	12622	53	183	1.26	-1.23	22.1
		560	9121	12.68	12814	52	168	1.19	-1.16	21.4
35	9500	400	8045	15.35	12449	59	258	1.61	-1.57	25.9
		440	8482	14.72	12736	57	232	1.48	-1.44	24.8
		480	8875	14.15	13000	55	209	1.36	-1.33	23.9
		520	9220	13.65	13239	54	190	1.27	-1.24	23.0
		560	9507	13.27	13440	53	175	1.19	-1.17	22.4
35	10000	440	8804	15.30	13323	58	239	1.48	-1.44	25.8
		480	9218	14.73	13601	56	216	1.36	-1.33	24.9
		520	9583	14.23	13850	54	196	1.27	-1.24	24.0
		560	9884	13.85	14060	53	181	1.20	-1.17	23.4
40	1500	360	1518	3.34	2134	48	84	1.91	-1.84	5.6
40	2000	360	1956	4.32	2798	50	100	1.91	-1.84	7.3
		400	2013	3.99	2838	48	86	1.71	-1.66	6.7
		440	2059	3.71	2871	47	75	1.55	-1.50	6.3
40	2500	360	2369	5.24	3444	51	116	1.91	-1.84	8.8
		400	2448	4.87	3499	50	100	1.71	-1.66	8.2
		440	2512	4.54	3544	48	86	1.55	-1.51	7.7
		480	2566	4.24	3583	47	76	1.42	-1.38	7.2
40	3000	360	2762	6.12	4078	53	130	1.90	-1.84	10.3
		400	2862	5.71	4147	51	112	1.71	-1.66	9.6
		440	2946	5.33	4205	50	98	1.56	-1.51	9.0
		480	3017	5.00	4255	48	86	1.42	-1.38	8.4
		520	3077	4.71	4297	48	76	1.31	-1.28	7.9
		560	3127	4.45	4333	47	68	1.22	-1.19	7.5
40	3500	360	3135	6.97	4699	54	143	1.90	-1.84	11.8
		400	3260	6.51	4783	52	124	1.71	-1.66	11.0
		440	3364	6.10	4855	51	108	1.56	-1.51	10.3
		480	3452	5.74	4916	49	95	1.43	-1.39	9.7
		520	3527	5.41	4969	48	85	1.32	-1.28	9.1
		560	3590	5.12	5014	48	76	1.22	-1.19	8.7
40	4000	360	3493	7.78	5311	55	156	1.90	-1.84	13.1
		400	3641	7.29	5409	53	135	1.71	-1.66	12.3
		440	3766	6.85	5494	52	118	1.56	-1.51	11.6
		480	3873	6.45	5568	50	104	1.43	-1.39	10.9
		520	3964	6.09	5632	49	93	1.32	-1.28	10.3
		560	4041	5.79	5686	48	83	1.23	-1.20	9.8

Table 6-16. (Sheet 12)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL	CROSS FT/KNOT
40	4500	360	3837	8.56	5914	56	168	1.89	-1.83	14.5
		400	4009	8.04	6027	54	146	1.71	-1.66	13.6
		440	4155	7.57	6125	53	128	1.56	-1.52	12.8
		480	4281	7.15	6211	51	113	1.43	-1.39	12.1
		520	4388	6.76	6286	50	101	1.32	-1.29	11.4
		560	4479	6.44	6349	49	90	1.23	-1.20	10.9
40	5000	360	4168	9.32	6509	57	179	1.89	-1.83	15.7
		400	4364	8.77	6636	55	156	1.71	-1.66	14.8
		440	4531	8.28	6748	53	137	1.56	-1.52	14.0
		480	4676	7.83	6846	52	122	1.43	-1.39	13.2
		520	4801	7.42	6932	51	108	1.32	-1.29	12.5
		560	4906	7.07	7005	50	98	1.23	-1.20	11.9
40	5500	360	4487	10.05	7098	58	189	1.88	-1.83	17.0
		400	4707	9.48	7239	56	166	1.71	-1.66	16.0
		440	4896	8.96	7364	54	146	1.56	-1.52	15.1
		480	5061	8.49	7474	53	130	1.43	-1.39	14.3
		520	5203	8.06	7571	52	116	1.32	-1.29	13.6
		560	5322	7.70	7653	51	104	1.24	-1.21	13.0
40	6000	360	4796	10.76	7681	59	199	1.88	-1.82	18.2
		400	5040	10.17	7836	57	175	1.70	-1.66	17.2
		440	5251	9.63	7973	55	155	1.56	-1.52	16.3
		480	5435	9.13	8096	54	137	1.43	-1.40	15.4
		520	5594	8.69	8204	52	123	1.33	-1.29	14.7
		560	5728	8.31	8295	51	111	1.24	-1.21	14.0
40	6500	360	5096	11.45	8259	60	209	1.87	-1.82	19.3
		400	5363	10.84	8427	58	184	1.70	-1.65	18.3
		440	5596	10.28	8577	56	163	1.56	-1.52	17.4
		480	5799	9.76	8711	54	145	1.43	-1.40	16.5
		520	5976	9.30	8830	53	130	1.33	-1.30	15.7
		560	6124	8.92	8931	52	118	1.24	-1.22	15.1
40	7000	360	5387	12.13	8833	60	218	1.87	-1.81	20.5
		400	5678	11.50	9013	58	192	1.70	-1.65	19.4
		440	5932	10.92	9175	57	170	1.55	-1.51	18.4
		480	6155	10.38	9321	55	152	1.43	-1.40	17.5
		520	6349	9.91	9451	54	137	1.33	-1.30	16.7
		560	6512	9.52	9560	53	124	1.25	-1.22	16.1
40	7500	360	5670	12.78	9402	61	226	1.86	-1.81	21.6
		400	5984	12.14	9595	59	200	1.69	-1.65	20.5
		440	6260	11.54	9769	57	178	1.55	-1.51	19.5
		480	6502	10.99	9926	56	159	1.43	-1.40	18.6
		520	6714	10.51	10066	54	143	1.33	-1.30	17.7
		560	6890	10.11	10185	53	130	1.25	-1.22	17.1
40	8000	360	5945	13.43	9967	62	234	1.85	-1.80	22.7
		400	6282	12.76	10172	60	208	1.69	-1.65	21.5
		440	6580	12.15	10358	58	185	1.55	-1.51	20.5
		480	6842	11.59	10527	56	166	1.43	-1.40	19.6
		520	7071	11.09	10677	55	149	1.33	-1.30	18.7
		560	7261	10.70	10804	54	136	1.25	-1.23	18.1
40	8500	360	6214	14.05	10529	62	242	1.85	-1.80	23.7
		400	6574	13.38	10745	60	215	1.69	-1.64	22.6
		440	6892	12.75	10943	58	192	1.55	-1.51	21.5
		480	7174	12.18	11123	57	172	1.43	-1.40	20.5
		520	7420	11.67	11283	55	156	1.33	-1.30	19.7
		560	7623	11.27	11418	54	142	1.26	-1.23	19.0

Table 6-16. (Sheet 13)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
40	9000	360	6476	14.67	11088	63	250	1.84	-1.79	24.8
		400	6859	13.98	11316	61	222	1.68	-1.64	23.6
		440	7198	13.34	11525	59	199	1.55	-1.51	22.5
		480	7499	12.75	11715	57	179	1.43	-1.40	21.5
		520	7761	12.25	11884	56	162	1.33	-1.30	20.7
		560	7978	11.85	12027	55	148	1.26	-1.23	20.0
40	9500	360	6732	15.27	11644	63	257	1.83	-1.78	25.8
		400	7137	14.56	11882	61	229	1.68	-1.64	24.6
		440	7498	13.91	12102	59	205	1.54	-1.51	23.5
		480	7818	13.32	12303	58	185	1.43	-1.40	22.5
		520	8096	12.81	12482	57	167	1.33	-1.31	21.6
		560	8325	12.41	12632	56	154	1.26	-1.24	21.0
40	10000	360	6983	15.86	12197	64	264	1.82	-1.78	26.8
		400	7410	15.14	12446	62	235	1.67	-1.63	25.6
		440	7791	14.48	12677	60	211	1.54	-1.50	24.4
		480	8130	13.88	12888	58	191	1.43	-1.40	23.4
		520	8424	13.37	13075	57	173	1.34	-1.31	22.6
		560	8666	12.98	13233	56	159	1.27	-1.24	21.9
45	2000	360	1680	4.02	2612	53	89	2.04	-1.97	6.8
45	2500	360	2042	4.90	3228	55	102	2.03	-1.96	8.3
		400	2102	4.54	3266	53	88	1.83	-1.78	7.7
		440	2152	4.22	3299	52	76	1.67	-1.62	7.1
45	3000	360	2387	5.75	3834	56	115	2.02	-1.96	9.7
		400	2466	5.33	3883	55	99	1.82	-1.77	9.0
		440	2531	4.97	3925	53	86	1.66	-1.62	8.4
		480	2585	4.65	3960	52	76	1.53	-1.49	7.8
45	3500	360	2717	6.55	4431	57	127	2.01	-1.95	11.1
		400	2815	6.10	4492	56	109	1.82	-1.77	10.3
		440	2897	5.70	4543	54	95	1.66	-1.61	9.6
		480	2965	5.34	4587	53	84	1.52	-1.49	9.0
		520	3022	5.03	4624	52	74	1.41	-1.38	8.5
45	4000	360	3035	7.33	5021	58	138	2.00	-1.94	12.4
		400	3152	6.85	5093	57	119	1.81	-1.76	11.6
		440	3250	6.41	5154	55	104	1.66	-1.61	10.8
		480	3333	6.02	5207	54	92	1.52	-1.48	10.2
		520	3404	5.67	5252	53	81	1.41	-1.38	9.6
		560	3462	5.37	5290	52	73	1.31	-1.29	9.1
45	4500	360	3340	8.09	5604	59	148	1.99	-1.93	13.7
		400	3478	7.57	5687	57	129	1.81	-1.76	12.8
		440	3593	7.10	5759	56	113	1.65	-1.61	12.0
		480	3691	6.68	5820	55	99	1.52	-1.48	11.3
		520	3775	6.31	5874	54	88	1.41	-1.38	10.6
		560	3845	5.99	5919	53	79	1.32	-1.29	10.1
45	5000	360	3635	8.82	6182	60	158	1.98	-1.92	14.9
		400	3793	8.27	6276	58	137	1.80	-1.75	14.0
		440	3926	7.78	6357	57	121	1.65	-1.61	13.1
		480	4040	7.33	6428	56	107	1.52	-1.48	12.4
		520	4137	6.93	6490	5[illegible]	95	1.41	-1.38	11.7
		560	4218	6.59	6542	5[illegible]	85	1.32	-1.29	11.1
45	5500	360	3921	9.53	6755	61	167	1.97	-1.92	16.1
		400	4098	8.95	6859	59	146	1.79	-1.75	15.1
		440	4250	8.43	6951	57	128	1.64	-1.60	14.2
		480	4379	7.96	7031	56	114	1.52	-1.48	13.4
		520	4491	7.54	7101	55	101	1.41	-1.37	12.7
		560	4584	7.18	7160	54	91	1.32	-1.29	12.1

Table 6-16. (Sheet 14)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
45	6000	360	4198	10.22	7323	61	176	1.96	-1.91	17.3
		400	4395	9.62	7438	60	154	1.79	-1.74	16.2
		440	4565	9.07	7539	58	136	1.64	-1.60	15.3
		480	4711	8.58	7628	57	121	1.51	-1.48	14.5
		520	4836	8.14	7706	56	108	1.41	-1.37	13.7
		560	4941	7.77	7772	55	97	1.32	-1.29	13.1
45	6500	360	4466	10.89	7887	62	184	1.95	-1.90	18.4
		400	4684	10.27	8012	60	162	1.78	-1.74	17.3
		440	4872	9.70	8123	59	143	1.64	-1.60	16.4
		480	5034	9.19	8221	57	127	1.51	-1.48	15.5
		520	5174	8.73	8308	56	114	1.40	-1.37	14.7
		560	5290	8.35	8381	55	103	1.32	-1.29	14.1
45	7000	360	4728	11.55	8447	63	192	1.94	-1.89	19.5
		400	4965	10.91	8582	61	169	1.77	-1.73	18.4
		440	5171	10.32	8703	59	150	1.63	-1.59	17.4
		480	5350	9.78	8810	58	133	1.51	-1.47	16.5
		520	5504	9.31	8905	57	120	1.40	-1.37	15.7
		560	5632	8.92	8984	56	109	1.32	-1.29	15.1
45	7500	360	4982	12.19	9004	63	200	1.93	-1.88	20.6
		400	5240	11.53	9149	62	176	1.77	-1.72	19.5
		440	5464	10.92	9279	60	156	1.63	-1.59	18.4
		480	5659	10.37	9396	59	140	1.51	-1.47	17.5
		520	5828	9.88	9498	57	125	1.40	-1.37	16.7
		560	5967	9.48	9584	56	114	1.32	-1.30	16.0
45	8000	360	5230	12.82	9558	64	207	1.92	-1.87	21.6
		400	5508	12.14	9713	62	183	1.76	-1.72	20.5
		440	5750	11.51	9852	61	163	1.62	-1.58	19.4
		480	5962	10.94	9977	59	146	1.50	-1.47	18.5
		520	6145	10.45	10087	58	131	1.40	-1.37	17.6
		560	6296	10.04	10180	57	119	1.32	-1.30	17.0
45	8500	360	5472	13.43	10109	65	214	1.91	-1.86	22.7
		400	5770	12.73	10273	63	190	1.75	-1.71	21.5
		440	6030	12.09	10422	61	169	1.62	-1.58	20.4
		480	6258	11.51	10555	60	151	1.50	-1.47	19.4
		520	6455	11.00	10673	58	136	1.40	-1.37	18.6
		560	6617	10.60	10772	58	124	1.33	-1.30	17.9
45	9000	360	5709	14.03	10658	65	221	1.90	-1.86	23.7
		400	6026	13.32	10831	63	196	1.75	-1.71	22.5
		440	6305	12.66	10989	62	175	1.61	-1.58	21.4
		480	6549	12.07	11131	60	157	1.50	-1.47	20.4
		520	6760	11.56	11256	59	142	1.40	-1.37	19.5
		560	6933	11.15	11361	58	130	1.33	-1.30	18.8
45	9500	360	5941	14.62	11205	65	227	1.89	-1.85	24.7
		400	6277	13.89	11387	64	202	1.74	-1.70	23.4
		440	6574	13.22	11553	62	181	1.61	-1.57	22.3
		480	6834	12.62	11703	61	162	1.49	-1.46	21.3
		520	7059	12.10	11835	59	147	1.40	-1.37	20.4
		560	7243	11.70	11946	59	134	1.33	-1.30	19.7
45	10000	360	6167	15.20	11749	66	233	1.88	-1.84	25.6
		400	6523	14.46	11940	64	208	1.73	-1.69	24.4
		440	6837	13.78	12114	63	186	1.60	-1.57	23.3
		480	7114	13.17	12272	61	168	1.49	-1.46	22.2
		520	7352	12.64	12412	60	152	1.40	-1.37	21.3
		560	7547	12.24	12528	59	139	1.33	-1.30	20.7

Table 6-16. (Sheet 15)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
50	2500	360	1746	4.62	3049	58	90	2.14	-2.08	7.8
		400	1794	4.27	3077	57	78	1.94	-1.89	7.2
50	3000	360	2046	5.43	3631	60	101	2.12	-2.06	9.2
		400	2108	5.03	3667	58	87	1.93	-1.88	8.5
		440	2159	4.67	3696	57	76	1.76	-1.72	7.9
50	3500	360	2335	6.21	4207	61	111	2.11	-2.05	10.5
		400	2412	5.76	4251	59	96	1.92	-1.87	9.7
		440	2476	5.37	4287	58	84	1.75	-1.71	9.1
		480	2529	5.02	4318	57	74	1.61	-1.58	8.5
50	4000	360	2612	6.96	4777	61	121	2.09	-2.04	11.8
		400	2706	6.48	4829	60	105	1.91	-1.86	10.9
		440	2784	6.05	4873	59	91	1.75	-1.70	10.2
		480	2849	5.67	4911	58	80	1.61	-1.57	9.6
		520	2903	5.33	4943	57	71	1.49	-1.46	9.0
50	4500	360	2880	7.69	5343	62	130	2.08	-2.03	13.0
		400	2990	7.18	5403	61	113	1.89	-1.85	12.1
		440	3082	6.71	5454	60	99	1.74	-1.70	11.3
		480	3160	6.30	5498	58	87	1.60	-1.57	10.6
		520	3225	5.93	5536	58	77	1.49	-1.46	10.0
		560	3279	5.62	5568	57	69	1.39	-1.37	9.5
50	5000	360	3140	8.40	5904	63	138	2.06	-2.01	14.2
		400	3266	7.85	5972	61	120	1.88	-1.84	13.3
		440	3373	7.36	6031	60	106	1.73	-1.69	12.4
		480	3463	6.92	6082	59	93	1.60	-1.56	11.7
		520	3539	6.53	6126	58	83	1.49	-1.46	11.0
		560	3603	6.19	6163	57	75	1.39	-1.37	10.5
50	5500	360	3392	9.09	6462	64	147	2.05	-2.00	15.3
		400	3535	8.51	6538	62	128	1.87	-1.83	14.4
		440	3656	7.99	6604	61	112	1.72	-1.69	13.5
		480	3759	7.53	6662	60	99	1.59	-1.56	12.7
		520	3847	7.11	6712	59	89	1.48	-1.45	12.0
		560	3919	6.76	6754	58	80	1.39	-1.37	11.4
50	6000	360	3636	9.76	7016	64	154	2.04	-1.99	16.5
		400	3796	9.16	7100	63	135	1.86	-1.82	15.5
		440	3932	8.61	7174	61	119	1.72	-1.68	14.5
		480	4048	8.12	7238	60	105	1.59	-1.56	13.7
		520	4148	7.68	7294	59	94	1.48	-1.45	13.0
		560	4230	7.32	7341	58	85	1.39	-1.36	12.4
50	6500	360	3873	10.42	7567	65	162	2.02	-1.98	17.6
		400	4050	9.79	7659	63	142	1.85	-1.81	16.5
		440	4202	9.22	7740	62	125	1.71	-1.67	15.6
		480	4332	8.71	7811	61	111	1.58	-1.55	14.7
		520	4442	8.25	7873	60	99	1.48	-1.45	13.9
		560	4534	7.87	7925	59	90	1.39	-1.36	13.3
50	7000	360	4105	11.06	8115	66	169	2.01	-1.96	18.7
		400	4299	10.41	8215	64	148	1.85	-1.80	17.6
		440	4465	9.81	8303	63	131	1.70	-1.67	16.6
		480	4609	9.28	8381	61	117	1.58	-1.55	15.7
		520	4731	8.81	8449	60	104	1.47	-1.45	14.9
		560	4833	8.42	8506	59	95	1.39	-1.36	14.2
50	7500	360	4330	11.68	8660	66	175	2.00	-1.95	19.7
		400	4541	11.01	8768	64	154	1.84	-1.80	18.6
		440	4723	10.40	8863	63	137	1.70	-1.66	17.5
		480	4880	9.85	8948	62	122	1.57	-1.54	16.6
		520	5015	9.36	9022	61	109	1.47	-1.44	15.8
		560	5125	8.96	9084	60	99	1.39	-1.36	15.1

Table 6-16. (Sheet 16)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
50	8000	360	4550	12.29	9204	67	182	1.98	-1.94	20.8
		400	4778	11.60	9318	65	160	1.83	-1.79	19.6
		440	4976	10.97	9421	64	142	1.69	-1.65	18.5
		480	5146	10.40	9512	62	127	1.57	-1.54	17.6
		520	5292	9.90	9592	61	114	1.47	-1.44	16.7
		560	5413	9.50	9659	60	104	1.39	-1.36	16.0
50	8500	360	4765	12.89	9745	67	188	1.97	-1.93	21.8
		400	5010	12.18	9867	65	166	1.82	-1.78	20.6
		440	5223	11.54	9976	64	148	1.68	-1.65	19.5
		480	5407	10.95	10074	63	132	1.57	-1.53	18.5
		520	5565	10.44	10160	62	119	1.47	-1.44	17.6
		560	5695	10.04	10231	61	108	1.39	-1.36	16.9
50	9000	360	4976	13.48	10284	67	194	1.96	-1.92	22.8
		400	5238	12.75	10413	66	172	1.81	-1.77	21.5
		440	5465	12.09	10530	64	153	1.68	-1.64	20.4
		480	5663	11.49	10634	63	137	1.56	-1.53	19.4
		520	5833	10.98	10725	62	124	1.46	-1.44	18.5
		560	5972	10.57	10801	61	113	1.39	-1.37	17.8
50	9500	360	5182	14.06	10821	68	199	1.95	-1.91	23.7
		400	5460	13.32	10957	66	177	1.80	-1.76	22.5
		440	5703	12.64	11081	65	158	1.67	-1.64	21.3
		480	5915	12.03	11191	64	142	1.56	-1.53	20.3
		520	6096	11.51	11288	63	128	1.46	-1.44	19.4
		560	6244	11.10	11368	62	117	1.39	-1.37	18.7
50	10000	360	5384	14.62	11357	68	205	1.94	-1.90	24.7
		400	5679	13.87	11500	67	182	1.79	-1.75	23.4
		440	5937	13.18	11630	65	163	1.66	-1.63	22.2
		480	6162	12.56	11746	64	146	1.55	-1.52	21.2
		520	6355	12.03	11848	63	133	1.46	-1.43	20.3
		560	6511	11.62	11933	62	121	1.39	-1.37	19.6
55	2500	360	1476	4.40	2903	62	80	2.24	-2.18	7.4
55	3000	360	1733	5.18	3465	63	89	2.22	-2.16	8.7
		400	1783	4.78	3490	62	76	2.02	-1.97	8.1
55	3500	360	1981	5.93	4022	64	97	2.20	-2.15	10.0
		400	2043	5.49	4053	63	84	2.00	-1.96	9.3
		440	2093	5.10	4078	62	73	1.84	-1.80	8.6
55	4000	360	2220	6.66	4575	65	105	2.18	-2.13	11.2
		400	2295	6.18	4612	64	91	1.99	-1.94	10.4
		440	2357	5.76	4643	63	80	1.83	-1.79	9.7
		480	2408	5.38	4669	62	70	1.69	-1.65	9.1
55	4500	360	2452	7.36	5125	66	113	2.16	-2.11	12.4
		400	2540	6.85	5167	64	98	1.97	-1.93	11.6
		440	2613	6.39	5204	63	86	1.82	-1.78	10.8
		480	2674	5.99	5235	62	76	1.68	-1.65	10.1
55	5000	360	2676	8.05	5671	66	120	2.14	-2.09	13.6
		400	2778	7.51	5720	65	105	1.96	-1.92	12.7
		440	2863	7.02	5762	64	92	1.81	-1.77	11.8
		480	2934	6.58	5797	63	81	1.67	-1.64	11.1
		520	2994	6.20	5828	62	72	1.56	-1.53	10.5
55	5500	360	2894	8.72	6215	67	127	2.12	-2.08	14.7
		400	3009	8.15	6270	65	111	1.95	-1.91	13.7
		440	3106	7.63	6317	64	98	1.80	-1.76	12.9
		480	3188	7.17	6357	63	86	1.67	-1.63	12.1
		520	3258	6.76	6392	62	77	1.55	-1.52	11.4
		560	3315	6.42	6422	62	69	1.46	-1.43	10.8

Table 6-16. (Sheet 17)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
55	6000	360	3106	9.38	6756	67	134	2.11	-2.06	15.8
		400	3235	8.77	6817	66	117	1.94	-1.90	14.8
		440	3345	8.23	6869	65	103	1.79	-1.75	13.9
		480	3437	7.74	6915	64	91	1.66	-1.63	13.1
		520	3516	7.31	6954	63	82	1.55	-1.52	12.3
		560	3581	6.95	6987	62	74	1.46	-1.43	11.7
55	6500	360	3312	10.02	7295	68	140	2.09	-2.05	16.9
		400	3456	9.39	7362	66	123	1.92	-1.88	15.8
		440	3578	8.82	7420	65	108	1.78	-1.74	14.9
		480	3681	8.31	7470	64	96	1.65	-1.62	14.0
		520	3769	7.86	7514	63	86	1.54	-1.52	13.3
		560	3842	7.49	7551	63	78	1.46	-1.43	12.6
55	7000	360	3513	10.64	7832	68	146	2.07	-2.03	18.0
		400	3671	9.99	7904	67	129	1.91	-1.87	16.9
		440	3806	9.40	7968	66	114	1.77	-1.73	15.9
		480	3920	8.86	8023	65	101	1.64	-1.61	15.0
		520	4018	8.40	8071	64	90	1.54	-1.51	14.2
		560	4098	8.01	8111	63	82	1.45	-1.43	13.5
55	7500	360	3710	11.25	8367	69	152	2.06	-2.02	19.0
		400	3882	10.58	8445	67	134	1.90	-1.86	17.9
		440	4029	9.96	8514	66	119	1.76	-1.73	16.8
		480	4155	9.41	8574	65	106	1.64	-1.61	15.9
		520	4262	8.93	8626	64	95	1.53	-1.51	15.1
		560	4350	8.54	8670	63	86	1.45	-1.43	14.4
55	8000	360	3901	11.85	8901	69	158	2.04	-2.00	20.0
		400	4088	11.15	8984	68	139	1.89	-1.85	18.8
		440	4248	10.52	9058	67	123	1.75	-1.72	17.8
		480	4385	9.95	9123	66	110	1.63	-1.60	16.8
		520	4502	9.46	9180	65	99	1.53	-1.50	16.0
		560	4598	9.06	9227	64	90	1.45	-1.43	15.3
55	8500	360	4089	12.44	9432	70	163	2.03	-1.99	21.0
		400	4290	11.72	9521	68	144	1.87	-1.84	19.8
		440	4462	11.07	9600	67	128	1.74	-1.71	18.7
		480	4611	10.49	9670	66	114	1.62	-1.60	17.7
		520	4738	9.98	9731	65	103	1.53	-1.50	16.8
		560	4841	9.57	9782	64	94	1.45	-1.43	16.2
55	9000	360	4273	13.02	9963	70	168	2.01	-1.98	22.0
		400	4488	12.28	10057	69	149	1.86	-1.83	20.7
		440	4673	11.61	10141	67	133	1.73	-1.70	19.6
		480	4833	11.01	10216	66	119	1.62	-1.59	18.6
		520	4969	10.50	10281	65	107	1.52	-1.50	17.7
		560	5080	10.09	10335	65	98	1.45	-1.42	17.0
55	9500	360	4453	13.58	10492	70	173	2.00	-1.96	22.9
		400	4682	12.83	10591	69	154	1.85	-1.82	21.7
		440	4880	12.15	10680	68	137	1.72	-1.69	20.5
		480	5051	11.53	10759	67	123	1.61	-1.59	19.5
		520	5197	11.01	10829	66	111	1.52	-1.49	18.6
		560	5316	10.60	10886	65	101	1.45	-1.42	17.9
55	10000	360	4629	14.14	11020	71	178	1.99	-1.95	23.9
		400	4872	13.37	11124	69	158	1.84	-1.81	22.6
		440	5083	12.67	11218	68	141	1.72	-1.69	21.4
		480	5266	12.05	11302	67	127	1.61	-1.58	20.3
		520	5421	11.52	11375	66	115	1.52	-1.49	19.4
		560	5547	11.11	11435	65	105	1.45	-1.42	18.7

Table 6-16. (Sheet 18)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
60	3000	360	1443	4.97	3329	67	77	2.30	-2.25	8.4
60	3500	360	1651	5.70	3870	68	84	2.28	-2.23	9.6
		400	1700	5.26	3891	67	73	2.08	-2.04	8.9
60	4000	360	1853	6.41	4408	68	91	2.25	-2.21	10.8
		400	1913	5.93	4434	67	79	2.06	-2.02	10.0
		440	1961	5.52	4455	66	69	1.90	-1.86	9.3
60	4500	360	2049	7.09	4944	69	98	2.23	-2.19	12.0
		400	2119	6.58	4974	68	85	2.05	-2.01	11.1
		440	2177	6.13	4999	67	74	1.89	-1.85	10.4
60	5000	360	2238	7.77	5478	69	104	2.21	-2.17	13.1
		400	2320	7.22	5512	68	90	2.03	-1.99	12.2
		440	2387	6.74	5541	67	79	1.87	-1.84	11.4
		480	2444	6.31	5565	67	70	1.74	-1.71	10.7
60	5500	360	2423	8.42	6010	70	110	2.19	-2.15	14.2
		400	2516	7.85	6048	69	96	2.01	-1.98	13.2
		440	2593	7.33	6081	68	84	1.86	-1.83	12.4
		480	2658	6.88	6109	67	74	1.73	-1.70	11.6
		520	2713	6.48	6133	66	66	1.61	-1.59	10.9
60	6000	360	2603	9.06	6540	70	115	2.17	-2.13	15.3
		400	2707	8.46	6582	69	101	2.00	-1.96	14.3
		440	2794	7.92	6619	68	89	1.85	-1.82	13.4
		480	2868	7.43	6650	67	79	1.72	-1.69	12.5
		520	2930	7.01	6677	67	70	1.61	-1.58	11.8
		560	2981	6.66	6700	66	63	1.52	-1.49	11.2
60	6500	360	2778	9.69	7069	71	121	2.15	-2.11	16.3
		400	2894	9.05	7115	70	106	1.98	-1.95	15.3
		440	2991	8.49	7155	69	93	1.84	-1.81	14.3
		480	3074	7.98	7190	68	83	1.71	-1.68	13.5
		520	3144	7.54	7220	67	74	1.60	-1.58	12.7
		560	3201	7.17	7245	66	67	1.51	-1.49	12.1
60	7000	360	2949	10.30	7596	71	126	2.13	-2.09	17.4
		400	3077	9.64	7646	70	110	1.97	-1.93	16.3
		440	3184	9.05	7690	69	97	1.83	-1.80	15.3
		480	3276	8.52	7729	68	87	1.70	-1.68	14.4
		520	3353	8.06	7762	67	78	1.60	-1.57	13.6
		560	3417	7.68	7789	67	70	1.51	-1.49	13.0
60	7500	360	3116	10.90	8122	72	131	2.11	-2.08	18.4
		400	3255	10.22	8176	71	115	1.95	-1.92	17.2
		440	3374	9.60	8224	69	102	1.81	-1.79	16.2
		480	3474	9.06	8266	69	90	1.69	-1.67	15.3
		520	3559	8.58	8302	68	81	1.59	-1.57	14.5
		560	3629	8.19	8332	67	74	1.51	-1.48	13.8
60	8000	360	3280	11.48	8646	72	135	2.09	-2.06	19.4
		400	3431	10.78	8705	71	119	1.94	-1.91	18.2
		440	3559	10.15	8756	70	106	1.80	-1.78	17.1
		480	3669	9.58	8801	69	94	1.69	-1.66	16.2
		520	3762	9.09	8840	68	85	1.58	-1.56	15.3
		560	3838	8.69	8873	67	77	1.50	-1.48	14.7
60	8500	360	3440	12.06	9170	72	140	2.08	-2.04	20.4
		400	3602	11.34	9232	71	123	1.93	-1.90	19.1
		440	3741	10.69	9287	70	110	1.79	-1.77	18.0
		480	3861	10.10	9336	69	98	1.68	-1.65	17.1
		520	3962	9.60	9378	68	88	1.58	-1.56	16.2
		560	4044	9.19	9413	68	80	1.50	-1.48	15.5

Table 6-16. (Sheet 19)

DIVE BOMBING TABLES
FOR
M117 750-LB GP BOMB

REL ANGLE DEG	REL ALT ABOVE TGT FT	REL TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT
60	9000	360	3596	12.63	9692	73	144	2.06	-2.03	21.3
		400	3771	11.89	9758	72	127	1.91	-1.88	20.1
		440	3921	11.21	9817	71	113	1.78	-1.76	18.9
		480	4049	10.62	9869	70	101	1.67	-1.65	17.9
		520	4158	10.10	9914	69	91	1.57	-1.55	17.0
		560	4246	9.69	9951	68	83	1.50	-1.48	16.4
60	9500	360	3750	13.19	10213	73	148	2.04	-2.01	22.3
		400	3936	12.42	10283	72	131	1.90	-1.87	21.0
		440	4096	11.74	10346	71	117	1.77	-1.75	19.8
		480	4234	11.12	10401	70	105	1.66	-1.64	18.8
		520	4351	10.60	10449	69	95	1.57	-1.55	17.9
		560	4445	10.19	10489	68	86	1.50	-1.48	17.2
60	10000	360	3901	13.73	10734	73	152	2.03	-2.00	23.2
		400	4099	12.96	10807	72	135	1.89	-1.86	21.9
		440	4270	12.25	10873	71	121	1.76	-1.74	20.7
		480	4416	11.63	10932	70	108	1.66	-1.63	19.6
		520	4541	11.10	10983	69	98	1.57	-1.54	18.7
		560	4642	10.69	11025	69	90	1.50	-1.47	18.0

Table 6-17.

LEVEL RELEASE TABLE
FOR
M129E2 LEAFLET BOMB

RELEASE ALTITUDE ABOVE FUZE FUNCTION FT	TAS KTS	BOMB RANGE TO FUZE FUNCTION FT	BOMB TIME OF FALL TO FUZE FUNCTION SEC	RELEASE ALTITUDE ABOVE FUZE FUNCTION FT	TAS KTS	BOMB RANGE TO FUZE FUNCTION FT	BOMB TIME OF FALL TO FUZE FUNCTION SEC
1000	360	4313	7.68	6000	360	10219	20.17
	400	4768	7.70		400	11232	20.26
	440	5217	7.72		440	12222	20.35
	480	5661	7.74		480	13191	20.44
	520	6101	7.77		520	14139	20.53
	560	6534	7.79		560	15047	20.61
2000	360	6071	11.16	7000	360	10978	21.93
	400	6696	11.20		400	12061	22.03
	440	7312	11.23		440	13119	22.13
	480	7920	11.27		480	14153	22.23
	520	8518	11.31		520	15163	22.33
	560	9104	11.35		560	16126	22.42
3000	360	7376	13.87	8000	360	11680	23.58
	400	8126	13.93		400	12828	23.69
	440	8862	13.98		440	13948	23.80
	480	9586	14.04		480	15042	23.91
	520	10297	14.09		520	16111	24.01
	560	10989	14.14		560	17123	24.12
4000	360	8453	16.20	9000	360	12336	25.14
	400	9303	16.27		400	13545	25.26
	440	10136	16.33		440	14724	25.38
	480	10953	16.40		480	15875	25.49
	520	11755	16.47		520	16999	25.61
	560	12531	16.54		560	18056	25.72
5000	360	9386	18.27	10000	360	12955	26.63
	400	10322	18.35		400	14222	26.76
	440	11238	18.43		440	15457	26.88
	480	12136	18.51		480	16662	27.01
	520	13015	18.59		520	17838	27.13
	560	13862	18.67		560	18936	27.25

Table 6-18. (Sheet 1)

DIVE BOMBING TABLES
FOR
CBU-24B/B OR CBU-49B/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 1500 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	WIND CORRECTION FACTOR TAIL MILS/KNOT	WIND CORRECTION FACTOR CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
15	360	2500	4292	11.76	4.29	60	4967	268	2.10	-1.96	19.85	794
15	400	2500	4550	11.59	4.05	59	5192	242	1.89	-1.77	19.56	857
15	440	2500	4776	11.44	3.84	58	5391	222	1.73	-1.62	19.31	914
15	480	2500	4970	11.31	3.65	57	5563	206	1.60	-1.50	19.09	983
15	520	2500	5135	11.20	3.49	57	5711	193	1.50	-1.42	18.90	1009
15	560	2500	5271	11.12	3.34	57	5834	182	1.43	-1.35	18.77	1030
15	400	3000	5395	12.44	5.56	58	6173	247	1.71	-1.61	21.00	819
15	440	3000	5687	12.28	5.30	57	6430	225	1.56	-1.47	20.73	878
15	480	3000	5938	12.15	5.08	56	6653	207	1.44	-1.36	20.51	932
15	520	3000	6153	12.04	4.89	56	6845	193	1.34	-1.27	20.32	960
15	560	3000	6333	11.96	4.72	55	7008	182	1.27	-1.21	20.19	983
15	400	3500	6141	13.25	6.88	57	7068	258	1.62	-1.53	22.36	789
15	440	3500	6494	13.08	6.61	56	7377	234	1.46	-1.39	22.08	848
15	480	3500	6800	12.95	6.37	55	7648	215	1.35	-1.28	21.86	888
15	520	3500	7063	12.84	6.16	55	7883	199	1.26	-1.20	21.67	918
15	560	3500	7283	12.77	5.98	55	8080	187	1.19	-1.13	21.55	942
15	440	4000	7226	13.86	7.80	56	8259	245	1.41	-1.34	23.39	812
15	480	4000	7583	13.72	7.54	55	8573	225	1.30	-1.24	23.16	849
15	520	4000	7890	13.62	7.32	54	8846	208	1.21	-1.15	22.99	880
15	560	4000	8149	13.54	7.14	54	9078	195	1.14	-1.09	22.85	905
30	440	3000	3747	8.90	3.48	56	4800	153	2.02	-1.92	15.02	739
30	480	3000	3858	8.62	3.26	55	4887	139	1.88	-1.80	14.55	743
30	520	3000	3951	8.38	3.08	54	4961	127	1.77	-1.69	14.14	766
30	560	3000	4026	8.19	2.92	53	5021	118	1.69	-1.62	13.82	785
30	440	3500	4312	9.63	4.48	56	5554	160	1.90	-1.81	16.25	685
30	480	3500	4448	9.33	4.22	55	5660	144	1.77	-1.69	15.75	714
30	520	3500	4561	9.09	4.00	54	5749	132	1.67	-1.60	15.34	739
30	560	3500	4653	8.89	3.81	53	5822	123	1.59	-1.52	15.00	759
30	440	4000	4846	10.35	5.43	56	6284	168	1.82	-1.74	17.47	686
30	480	4000	5007	10.04	5.14	55	6409	152	1.69	-1.62	16.95	688
30	520	4000	5141	9.78	4.89	54	6514	139	1.59	-1.53	16.51	714
30	560	4000	5251	9.57	4.68	54	6601	128	1.52	-1.46	16.15	735
30	440	4500	5353	11.04	6.34	57	6993	177	1.76	-1.69	18.63	666
30	480	4500	5539	10.73	6.02	56	7137	160	1.64	-1.57	18.11	683
30	520	4500	5695	10.46	5.75	55	7258	146	1.54	-1.48	17.65	697
30	560	4500	5823	10.25	5.52	54	7359	135	1.47	-1.42	17.30	713
30	440	5000	5836	11.73	7.21	57	7685	186	1.72	-1.65	19.80	648
30	480	5000	6048	11.40	6.87	56	7847	168	1.60	-1.54	19.24	666
30	520	5000	6225	11.14	6.57	55	7984	154	1.51	-1.45	18.80	681
30	560	5000	6372	10.92	6.33	54	8100	143	1.43	-1.38	18.43	693

Table 6-18. (Sheet 2)

DIVE BOMBING TABLES
FOR
CBU-24B/B OR CBU-49B/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 1800 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD (MILS/KNOT)	TAIL (MILS/KNOT)	CROSS (FT/KNOT)	IMPACT PATTERN DIAMETER FT
15	400	3000	5069	13.53	4.68	65	5890	274	2.05	-1.92	22.84	968
15	440	3000	5328	13.39	4.45	64	6115	253	1.88	-1.77	22.60	1026
15	480	3000	5551	13.27	4.25	64	6310	235	1.75	-1.64	22.40	1098
15	520	3000	5739	13.18	4.07	64	6476	221	1.65	-1.55	22.25	1124
15	560	3000	5895	13.11	3.91	63	6614	210	1.57	-1.48	22.13	1147
15	440	3500	6200	14.19	5.84	63	7120	253	1.71	-1.61	23.95	993
15	480	3500	6479	14.07	5.61	63	7364	235	1.58	-1.50	23.75	1050
15	520	3500	6716	13.98	5.41	62	7573	220	1.49	-1.41	23.60	1079
15	560	3500	6915	13.91	5.23	62	7750	208	1.41	-1.34	23.48	1102
15	440	4000	6979	14.94	7.10	62	8044	260	1.61	-1.52	25.22	971
15	480	4000	7311	14.83	6.85	62	8334	240	1.49	-1.41	25.03	1008
15	520	4000	7596	14.74	6.63	62	8585	224	1.39	-1.32	24.88	1038
15	560	4000	7834	14.68	6.45	61	8796	211	1.32	-1.25	24.78	1063
15	480	4500	8072	15.56	7.99	61	9242	248	1.42	-1.35	26.26	971
15	520	4500	8400	15.47	7.77	61	9529	231	1.33	-1.27	26.11	1002
15	560	4500	8675	15.42	7.58	61	9773	218	1.26	-1.20	26.03	1027
15	520	5000	9144	16.19	8.83	60	10422	239	1.29	-1.23	27.33	969
15	560	5000	9453	16.14	8.65	60	10694	226	1.22	-1.17	27.24	994
30	360	3500	3823	11.36	4.47	65	5183	219	2.58	-2.44	19.17	757
30	400	3500	4005	10.97	4.16	63	5319	196	2.36	-2.24	18.52	805
30	440	3500	4160	10.63	3.89	62	5437	177	2.19	-2.08	17.94	859
30	480	3500	4290	10.35	3.65	61	5537	162	2.05	-1.96	17.47	867
30	520	3500	4397	10.11	3.45	60	5620	150	1.95	-1.86	17.06	891
30	560	3500	4484	9.92	3.28	59	5688	140	1.86	-1.78	16.74	911
30	360	4000	4312	12.07	5.54	65	5882	226	2.43	-2.31	20.37	741
30	400	4000	4528	11.67	5.18	63	6042	201	2.22	-2.12	19.70	775
30	440	4000	4712	11.32	4.87	62	6181	182	2.06	-1.96	19.11	842
30	480	4000	4866	11.02	4.60	61	6299	166	1.93	-1.84	18.60	840
30	520	4000	4994	10.78	4.36	60	6398	153	1.83	-1.75	18.19	865
30	560	4000	5099	10.58	4.16	59	6481	143	1.75	-1.67	17.86	886
30	360	4500	4771	12.78	6.55	64	6558	234	2.32	-2.21	21.57	727
30	400	4500	5021	12.35	6.15	63	6742	208	2.12	-2.02	20.84	762
30	440	4500	5234	11.99	5.80	62	6903	188	1.96	-1.88	20.24	822
30	480	4500	5413	11.69	5.50	61	7039	171	1.84	-1.76	19.73	838
30	520	4500	5563	11.44	5.24	60	7155	158	1.74	-1.67	19.31	841
30	560	4500	5685	11.24	5.01	59	7250	147	1.66	-1.60	18.97	862
30	360	5000	5204	13.46	7.50	64	7217	243	2.24	-2.14	22.72	715
30	400	5000	5488	13.02	7.07	63	7424	216	2.04	-1.96	21.98	750
30	440	5000	5730	12.65	6.69	62	7605	195	1.89	-1.81	21.35	803
30	480	5000	5935	12.34	6.36	61	7760	178	1.77	-1.70	20.83	821
30	520	5000	6105	12.09	6.08	60	7891	164	1.68	-1.61	20.41	835
30	560	5000	6246	11.89	5.84	59	8001	152	1.60	-1.54	20.07	840
30	360	6000	6009	14.78	9.26	65	8492	262	2.13	-2.04	24.95	695
30	400	6000	6358	14.33	8.78	63	8742	234	1.94	-1.87	24.19	747
30	440	6000	6658	13.94	8.36	62	8963	211	1.80	-1.73	23.53	770
30	480	6000	6913	13.62	8.00	61	9154	192	1.68	-1.62	22.99	789
30	520	6000	7126	13.36	7.69	60	9316	177	1.59	-1.53	22.55	805
30	560	6000	7301	13.16	7.43	60	9450	165	1.52	-1.47	22.21	817

Table 6-18. (Sheet 3)

DIVE BOMBING TABLES
FOR
CBU-24B/B OR CBU-49B/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 1800 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
30	400	7000	7161	15.59	10.37	63	10014	251	1.88	-1.81	26.31	718
30	440	7000	7516	15.20	9.93	62	10271	227	1.74	-1.68	25.65	741
30	480	7000	7818	14.87	9.54	61	10494	207	1.63	-1.57	25.10	761
30	520	7000	8072	14.61	9.22	61	10684	192	1.54	-1.49	24.66	777
30	560	7000	8281	14.41	8.95	60	10843	179	1.48	-1.43	24.32	790
45	440	4500	3487	9.57	4.52	65	5693	127	2.29	-2.21	16.15	682
45	480	4500	3578	9.19	4.24	64	5749	115	2.16	-2.08	15.51	693
45	520	4500	3653	8.87	4.00	63	5796	105	2.05	-1.98	14.97	702
45	560	4500	3713	8.62	3.79	62	5834	97	1.96	-1.90	14.55	710
45	440	5000	3831	10.18	5.27	65	6299	133	2.21	-2.14	17.18	669
45	480	5000	3935	9.79	4.95	64	6363	120	2.08	-2.02	16.52	681
45	520	5000	4021	9.47	4.68	63	6416	109	1.98	-1.92	15.98	691
45	560	5000	4090	9.20	4.46	63	6460	101	1.90	-1.84	15.53	699
45	440	6000	4487	11.39	6.70	66	7492	144	2.09	-2.03	19.22	646
45	480	6000	4618	10.98	6.33	65	7571	130	1.97	-1.92	18.53	660
45	520	6000	4727	10.64	6.02	64	7638	119	1.88	-1.83	17.96	671
45	560	6000	4815	10.36	5.76	63	7693	110	1.80	-1.75	17.49	680
45	440	7000	5105	12.57	8.06	66	8664	156	2.01	-1.96	21.22	626
45	480	7000	5265	12.14	7.65	65	8759	141	1.90	-1.85	20.49	640
45	520	7000	5397	11.79	7.31	65	8839	129	1.81	-1.76	19.90	652
45	560	7000	5504	11.51	7.03	64	8905	120	1.74	-1.70	19.43	662
45	440	8000	5692	13.73	9.36	67	9818	168	1.95	-1.90	23.17	608
45	480	8000	5879	13.29	8.93	66	9928	152	1.85	-1.80	22.43	623
45	520	8000	6034	12.93	8.56	65	10020	140	1.77	-1.72	21.82	635
45	560	8000	6161	12.64	8.26	65	10097	130	1.70	-1.66	21.33	645

Table 6-18. (Sheet 4)

DIVE BOMBING TABLES
FOR
CBU-24B/B OR CBU-49B/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 2200 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	WIND CORRECTION FACTOR TAIL MILS/KNOT	WIND CORRECTION FACTOR CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
15	480	3500	5926	15.52	4.53	71	6882	273	2.01	-1.88	26.19	1242
15	520	3500	6127	15.44	4.34	71	7056	259	1.90	-1.78	26.06	1263
15	560	3500	6293	15.37	4.18	70	7201	247	1.82	-1.71	25.94	1281
15	480	4000	6839	16.29	5.87	70	7923	269	1.81	-1.71	27.49	1213
15	520	4000	7090	16.22	5.66	70	8141	253	1.71	-1.61	27.38	1235
15	560	4000	7297	16.16	5.48	70	8321	241	1.63	-1.54	27.27	1254
15	520	4500	7958	16.95	6.87	69	9142	254	1.59	-1.50	28.61	1211
15	560	4500	8205	16.90	6.68	69	9358	241	1.51	-1.43	28.52	1229
15	520	5000	8754	17.66	7.99	68	10081	258	1.51	-1.43	29.81	1189
15	560	5000	9037	17.62	7.80	68	10328	244	1.43	-1.36	29.74	1206
30	360	4000	4093	13.43	4.69	71	5723	252	2.86	-2.70	22.67	955
30	400	4000	4294	13.05	4.37	70	5868	228	2.64	-2.50	22.03	1003
30	440	4000	4465	12.72	4.09	69	5995	208	2.47	-2.34	21.47	1077
30	480	4000	4607	12.44	3.84	68	6101	193	2.33	-2.21	21.00	1099
30	520	4000	4726	12.20	3.64	67	6192	180	2.21	-2.10	20.59	1119
30	560	4000	4821	12.02	3.46	67	6264	170	2.13	-2.03	20.29	1135
30	360	4500	4577	14.11	5.75	70	6419	255	2.68	-2.54	23.81	942
30	400	4500	4812	13.71	5.38	69	6588	230	2.47	-2.35	23.14	991
30	440	4500	5012	13.37	5.06	68	6736	209	2.30	-2.19	22.57	1053
30	480	4500	5179	13.08	4.78	67	6861	193	2.17	-2.07	22.08	1083
30	520	4500	5318	12.85	4.54	67	6966	180	2.07	-1.97	21.69	1103
30	560	4500	5430	12.66	4.33	66	7052	170	1.99	-1.90	21.37	1120
30	360	5000	5031	14.77	6.74	70	7093	260	2.55	-2.43	24.93	931
30	400	5000	5300	14.36	6.34	69	7286	234	2.35	-2.24	24.24	980
30	440	5000	5529	14.01	5.98	68	7455	213	2.19	-2.09	23.65	1031
30	480	5000	5721	13.72	5.67	67	7598	196	2.06	-1.97	23.16	1052
30	520	5000	5881	13.48	5.41	67	7719	182	1.96	-1.87	22.75	1088
30	560	5000	6011	13.29	5.18	66	7819	171	1.88	-1.80	22.43	1105
30	360	6000	5868	16.05	8.57	70	8392	274	2.37	-2.26	27.09	914
30	400	6000	6203	15.62	8.11	69	8630	246	2.18	-2.08	26.36	964
30	440	6000	6490	15.26	7.71	68	8839	224	2.03	-1.94	25.76	992
30	480	6000	6733	14.96	7.36	67	9018	205	1.91	-1.83	25.25	1016
30	520	6000	6935	14.71	7.06	66	9170	191	1.81	-1.74	24.83	1034
30	560	6000	7100	14.52	6.81	66	9296	179	1.74	-1.67	24.51	1049
30	400	7000	7030	16.84	9.75	69	9921	261	2.07	-1.99	28.42	930
30	440	7000	7373	16.47	9.31	68	10167	237	1.93	-1.85	27.80	959
30	480	7000	7664	16.17	8.93	67	10380	217	1.81	-1.74	27.29	983
30	520	7000	7907	15.92	8.61	66	10560	202	1.72	-1.66	26.87	1003
30	560	7000	8106	15.73	8.35	66	10710	189	1.65	-1.59	26.55	1018
45	360	4500	3137	11.76	4.55	72	5486	178	3.04	-2.92	19.85	824
45	400	4500	3267	11.23	4.21	71	5561	159	2.83	-2.71	18.95	867
45	440	4500	3376	10.78	3.91	70	5626	143	2.65	-2.55	18.19	888
45	480	4500	3465	10.40	3.66	69	5679	131	2.51	-2.41	17.55	903
45	520	4500	3539	10.08	3.44	68	5725	120	2.39	-2.30	17.01	915
45	560	4500	3598	9.83	3.25	67	5762	112	2.30	-2.22	16.59	925

Table 6-18. (Sheet 5)

DIVE BOMBING TABLES
FOR
CBU-24B/B OR CBU-49B/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 2200 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
45	360	5000	3455	12.38	5.40	72	6078	182	2.89	-2.78	20.89	819
45	400	5000	3604	11.84	5.01	71	6164	162	2.69	-2.59	19.98	863
45	440	5000	3727	11.37	4.67	70	6236	146	2.52	-2.43	19.19	874
45	480	5000	3830	10.98	4.38	69	6298	133	2.39	-2.30	18.53	890
45	520	5000	3913	10.66	4.14	68	6349	122	2.28	-2.20	17.99	903
45	560	5000	3981	10.40	3.93	67	6391	114	2.19	-2.12	17.55	914
45	360	6000	4055	13.60	7.01	72	7242	192	2.68	-2.59	22.95	813
45	400	6000	4241	13.03	6.54	71	7348	171	2.49	-2.41	21.99	827
45	440	6000	4396	12.54	6.13	70	7438	154	2.34	-2.26	21.17	848
45	480	6000	4525	12.14	5.79	69	7515	140	2.22	-2.15	20.49	865
45	520	6000	4631	11.80	5.49	68	7579	129	2.12	-2.05	19.92	880
45	560	6000	4716	11.53	5.24	68	7632	120	2.04	-1.98	19.46	891
45	360	7000	4614	14.79	8.50	72	8384	204	2.53	-2.45	24.96	777
45	400	7000	4838	14.20	7.98	71	8509	182	2.36	-2.29	23.97	803
45	440	7000	5025	13.69	7.52	70	8617	164	2.22	-2.15	23.11	825
45	480	7000	5181	13.27	7.13	69	8709	149	2.10	-2.04	22.40	844
45	520	7000	5310	12.93	6.80	69	8786	137	2.01	-1.95	21.82	859
45	560	7000	5414	12.65	6.52	68	8849	128	1.94	-1.89	21.35	871
45	360	8000	5139	15.94	9.91	73	9508	215	2.42	-2.35	26.90	776
45	400	8000	5400	15.33	9.34	72	9652	192	2.26	-2.19	25.87	783
45	440	8000	5621	14.82	8.85	71	9777	174	2.13	-2.07	25.01	805
45	480	8000	5804	14.39	8.42	70	9884	159	2.02	-1.96	24.29	824
45	520	8000	5955	14.04	8.07	69	9973	146	1.94	-1.88	23.70	839
45	560	8000	6079	13.76	7.77	69	10048	136	1.87	-1.82	23.22	851
45	360	9000	5635	17.07	11.25	73	10619	227	2.34	-2.27	28.81	763
45	400	9000	5934	16.45	10.65	72	10780	203	2.19	-2.12	27.76	775
45	440	9000	6186	15.93	10.12	71	10921	184	2.06	-2.00	26.89	787
45	480	9000	6396	15.49	9.68	70	11041	168	1.96	-1.91	26.14	806
45	520	9000	6570	15.14	9.30	70	11143	155	1.88	-1.83	25.55	821
45	560	9000	6713	14.85	8.99	69	11228	145	1.82	-1.77	25.06	833
45	360	10000	6107	18.17	12.53	73	11717	238	2.27	-2.21	30.67	752
45	400	10000	6441	17.55	11.90	72	11895	214	2.13	-2.07	29.62	764
45	440	10000	6725	17.02	11.36	71	12051	194	2.01	-1.96	28.73	774
45	480	10000	6962	16.58	10.89	71	12185	178	1.91	-1.86	27.98	789
45	520	10000	7158	16.23	10.51	70	12298	165	1.84	-1.79	27.39	804
45	560	10000	7319	15.94	10.19	70	12392	154	1.78	-1.73	26.90	816

Table 6-18. (Sheet 6)

DIVE BOMBING TABLES
FOR
CBU-24B/B OR CBU-49B/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 2500 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
15	560	4000	6817	17.22	4.72	74	7904	270	1.93	-1.81	29.06	1418
15	520	4500	7558	18.03	6.15	74	8796	276	1.83	-1.72	30.43	1373
15	560	4500	7783	17.98	5.97	74	8990	263	1.75	-1.65	30.35	1392
15	560	5000	8661	18.71	7.14	73	10001	263	1.63	-1.54	31.58	1368
30	360	4500	4391	15.14	5.12	74	6287	276	3.01	-2.84	25.55	1110
30	400	4500	4612	14.76	4.78	73	6444	251	2.79	-2.64	24.91	1159
30	440	4500	4800	14.43	4.48	73	6580	231	2.61	-2.47	24.35	1218
30	480	4500	4958	14.16	4.22	72	6696	215	2.47	-2.35	23.90	1241
30	520	4500	5087	13.93	4.00	71	6792	202	2.36	-2.24	23.51	1260
30	560	4500	5193	13.75	3.81	71	6871	192	2.28	-2.16	23.21	1277
30	360	5000	4864	15.80	6.15	74	6976	277	2.82	-2.68	26.67	1098
30	400	5000	5119	15.41	5.77	73	7156	251	2.62	-2.48	26.01	1147
30	440	5000	5336	15.07	5.43	72	7313	231	2.45	-2.33	25.44	1212
30	480	5000	5518	14.79	5.14	72	7446	214	2.32	-2.20	24.96	1225
30	520	5000	5669	14.55	4.89	71	7559	200	2.21	-2.10	24.56	1245
30	560	5000	5791	14.37	4.68	71	7651	190	2.13	-2.03	24.25	1262
30	360	6000	5730	17.07	8.04	74	8297	286	2.58	-2.46	28.81	1079
30	400	6000	6052	16.65	7.60	73	8522	259	2.38	-2.27	28.10	1144
30	440	6000	6327	16.30	7.20	72	8720	236	2.23	-2.13	27.51	1172
30	480	6000	6559	16.01	6.86	71	8889	218	2.10	-2.01	27.02	1195
30	520	6000	6751	15.78	6.57	71	9032	204	2.01	-1.92	26.63	1213
30	560	6000	6908	15.59	6.33	71	9150	192	1.93	-1.85	26.31	1228
30	400	7000	6900	17.86	9.27	72	9829	270	2.24	-2.14	30.14	1109
30	440	7000	7232	17.50	8.84	72	10065	246	2.09	-2.00	29.54	1138
30	480	7000	7512	17.20	8.47	71	10268	227	1.97	-1.89	29.03	1161
30	520	7000	7746	16.97	8.15	71	10440	212	1.88	-1.81	28.64	1181
30	560	7000	7938	16.79	7.89	70	10584	200	1.81	-1.74	28.34	1196
45	360	5000	3357	13.35	4.90	75	6022	196	3.18	-3.05	22.53	983
45	400	5000	3502	12.82	4.53	74	6104	176	2.97	-2.86	21.64	1026
45	440	5000	3623	12.35	4.22	73	6175	160	2.80	-2.69	20.84	1051
45	480	5000	3723	11.96	3.95	72	6234	147	2.66	-2.56	20.19	1066
45	520	5000	3805	11.64	3.72	71	6283	136	2.54	-2.45	19.65	1079
45	560	5000	3871	11.39	3.53	71	6323	128	2.46	-2.37	19.22	1089
45	360	6000	3971	14.55	6.54	75	7195	202	2.91	-2.80	24.56	976
45	400	6000	4152	13.99	6.09	74	7297	181	2.72	-2.62	23.61	1003
45	440	6000	4304	13.51	5.70	73	7384	164	2.56	-2.47	22.80	1024
45	480	6000	4430	13.10	5.37	72	7458	150	2.43	-2.35	22.11	1041
45	520	6000	4533	12.77	5.09	72	7520	139	2.33	-2.25	21.55	1055
45	560	6000	4616	12.50	4.85	71	7570	131	2.25	-2.18	21.10	1067
45	360	7000	4540	15.72	8.06	75	8343	211	2.72	-2.63	26.53	972
45	400	7000	4759	15.13	7.55	74	8465	189	2.54	-2.46	25.54	979
45	440	7000	4943	14.63	7.11	73	8569	171	2.40	-2.32	24.69	1001
45	480	7000	5096	14.22	6.73	72	8658	157	2.28	-2.21	24.00	1019
45	520	7000	5221	13.88	6.41	72	8733	145	2.19	-2.12	23.43	1034
45	560	7000	5323	13.61	6.14	71	8794	136	2.12	-2.05	22.97	1046
45	360	8000	5073	16.85	9.50	75	9473	221	2.58	-2.50	28.44	949
45	400	8000	5330	16.25	8.94	74	9613	199	2.42	-2.34	27.43	957
45	440	8000	5546	15.74	8.45	73	9734	180	2.28	-2.21	26.57	980
45	480	8000	5726	15.32	8.04	73	9838	165	2.17	-2.11	25.86	998
45	520	8000	5874	14.98	7.69	72	9925	153	2.09	-2.03	25.28	1014
45	560	8000	5995	14.70	7.40	72	9997	143	2.02	-1.96	24.81	1026

Table 6-18. (Sheet 7)

DIVE BOMBING TABLES
FOR
CBU-24B/B OR CBU-49B/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 2500 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
45	360	9000	5577	17.96	10.86	75	10588	231	2.48	-2.40	30.31	936
45	400	9000	5870	17.35	10.26	74	10745	208	2.32	-2.25	29.28	948
45	440	9000	6118	16.84	9.74	74	10883	189	2.20	-2.13	28.42	961
45	480	9000	6325	16.41	9.30	73	11000	174	2.09	-2.03	27.70	980
45	520	9000	6496	16.06	8.93	72	11099	161	2.01	-1.96	27.11	995
45	560	9000	6635	15.78	8.63	72	11181	151	1.95	-1.89	26.63	1007
45	360	10000	6054	19.05	12.15	76	11690	242	2.39	-2.32	32.15	925
45	400	10000	6384	18.44	11.53	75	11864	218	2.25	-2.18	31.12	937
45	440	10000	6663	17.92	10.99	74	12016	198	2.13	-2.07	30.25	947
45	480	10000	6896	17.49	10.53	73	12147	182	2.03	-1.98	29.52	962
45	520	10000	7089	17.14	10.15	73	12258	169	1.96	-1.90	28.93	977
45	560	10000	7247	16.85	9.83	72	12350	159	1.89	-1.84	28.44	990

Table 6-19. (Sheet 1)

DIVE BOMBING TABLES
FOR
CBU-52B/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 1500 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
15	360	2500	4282	11.48	4.37	58	4958	269	2.05	-1.92	19.38	383
15	400	2500	4545	11.30	4.14	56	5187	243	1.84	-1.73	19.07	438
15	440	2500	4779	11.13	3.93	55	5393	222	1.68	-1.58	18.79	488
15	480	2500	4986	10.98	3.74	54	5578	205	1.54	-1.45	18.53	534
15	520	2500	5165	10.85	3.57	53	5738	190	1.44	-1.36	18.31	575
15	560	2500	5315	10.75	3.42	53	5874	179	1.36	-1.29	18.14	611
15	400	3000	5329	12.23	5.71	56	6115	252	1.72	-1.62	20.64	410
15	440	3000	5626	12.05	5.46	55	6376	229	1.55	-1.47	20.34	438
15	480	3000	5891	11.89	5.23	54	6611	211	1.42	-1.35	20.07	485
15	520	3000	6121	11.76	5.03	53	6817	195	1.32	-1.25	19.85	527
15	560	3000	6317	11.65	4.85	52	6993	183	1.24	-1.18	19.66	562
15	440	3500	6371	12.95	6.83	54	7269	242	1.49	-1.42	21.86	406
15	480	3500	6689	12.78	6.58	53	7549	221	1.37	-1.30	21.57	443
15	520	3500	6968	12.63	6.36	52	7798	205	1.26	-1.20	21.32	485
15	560	3500	7207	12.52	6.17	52	8012	191	1.19	-1.13	21.13	520
15	440	4000	7042	13.81	8.09	54	8099	256	1.46	-1.39	23.31	375
15	480	4000	7410	13.63	7.83	53	8421	234	1.33	-1.27	23.00	404
15	520	4000	7734	13.48	7.59	52	8707	216	1.23	-1.18	22.75	429
15	560	4000	8012	13.37	7.39	52	8955	202	1.16	-1.10	22.57	482
30	440	3000	3741	8.71	3.56	55	4795	154	1.98	-1.88	14.70	333
30	480	3000	3859	8.40	3.34	53	4888	139	1.83	-1.75	14.18	356
30	520	3000	3957	8.14	3.14	52	4966	127	1.72	-1.64	13.74	376
30	560	3000	4038	7.92	2.98	51	5030	117	1.63	-1.56	13.37	393
30	440	3500	4283	9.52	4.61	55	5531	163	1.89	-1.81	16.07	310
30	480	3500	4426	9.19	4.34	54	5643	147	1.75	-1.68	15.51	335
30	520	3500	4547	8.91	4.11	53	5738	134	1.64	-1.57	15.04	356
30	560	3500	4647	8.68	3.91	52	5818	123	1.55	-1.49	14.65	374
30	440	4000	4792	10.31	5.62	56	6242	173	1.83	-1.76	17.40	274
30	480	4000	4962	9.97	5.31	54	6373	156	1.70	-1.63	16.83	287
30	520	4000	5105	9.67	5.05	53	6485	142	1.59	-1.53	16.32	337
30	560	4000	5225	9.43	4.82	52	6580	131	1.51	-1.45	15.92	355
30	440	4500	5273	11.09	6.58	56	6932	184	1.80	-1.72	18.72	262
30	480	4500	5470	10.73	6.24	55	7083	166	1.66	-1.60	18.11	276
30	520	4500	5636	10.42	5.95	54	7212	151	1.56	-1.50	17.59	287
30	560	4500	5775	10.17	5.70	53	7321	139	1.47	-1.42	17.16	338
30	440	5000	5730	11.85	7.50	57	7605	195	1.77	-1.70	20.00	251
30	480	5000	5954	11.48	7.14	55	7775	176	1.64	-1.58	19.38	265
30	520	5000	6143	11.16	6.83	54	7921	161	1.53	-1.48	18.84	277
30	560	5000	6301	10.90	6.56	53	8044	148	1.45	-1.40	18.40	287

Table 6-19. (Sheet 2)

DIVE BOMBING TABLES
FOR
CBU-52B/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 1800 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
15	400	3000	5058	13.17	4.79	62	5881	275	2.00	-1.88	22.23	561
15	440	3000	5327	13.02	4.56	61	6114	253	1.83	-1.72	21.98	609
15	480	3000	5565	12.88	4.35	60	6322	234	1.69	-1.59	21.74	653
15	520	3000	5770	12.76	4.17	60	6503	219	1.58	-1.49	21.54	692
15	560	3000	5943	12.67	4.00	59	6657	207	1.50	-1.41	21.38	726
15	440	3500	6132	13.89	6.02	60	7061	258	1.70	-1.61	23.44	567
15	480	3500	6427	13.74	5.78	60	7318	238	1.57	-1.48	23.19	612
15	520	3500	6683	13.62	5.57	59	7544	222	1.46	-1.38	22.99	651
15	560	3500	6901	13.52	5.39	59	7738	209	1.38	-1.31	22.82	684
15	480	4000	7194	14.57	7.09	59	8231	247	1.50	-1.42	24.59	576
15	520	4000	7498	14.44	6.86	58	8498	229	1.39	-1.32	24.37	615
15	560	4000	7757	14.34	6.66	58	8728	215	1.31	-1.25	24.20	648
15	520	4500	8238	15.24	8.06	58	9387	239	1.35	-1.29	25.72	584
15	560	4500	8535	15.14	7.86	58	9649	224	1.27	-1.21	25.55	615
15	520	5000	8919	16.03	9.19	58	10225	250	1.33	-1.27	27.06	556
15	560	5000	9251	15.92	8.98	58	10516	235	1.25	-1.19	26.87	586
30	360	3500	3811	11.11	4.57	63	5174	221	2.53	-2.40	18.75	395
30	400	3500	3998	10.71	4.26	61	5314	197	2.31	-2.20	18.08	427
30	440	3500	4158	10.36	3.99	60	5435	178	2.13	-2.03	17.49	461
30	480	3500	4297	10.04	3.74	58	5542	161	1.99	-1.90	16.95	502
30	520	3500	4413	9.77	3.53	57	5632	148	1.87	-1.79	16.49	539
30	560	3500	4508	9.55	3.35	56	5707	138	1.78	-1.70	16.12	572
30	360	4000	4273	11.91	5.70	63	5853	230	2.42	-2.30	20.10	372
30	400	4000	4493	11.50	5.34	61	6016	205	2.21	-2.10	19.41	406
30	440	4000	4684	11.12	5.02	60	6160	185	2.03	-1.94	18.77	435
30	480	4000	4848	10.79	4.73	59	6285	168	1.89	-1.81	18.21	480
30	520	4000	4986	10.51	4.49	58	6392	154	1.78	-1.71	17.74	517
30	560	4000	5101	10.28	4.28	57	6482	143	1.69	-1.62	17.35	549
30	360	4500	4704	12.70	6.76	63	6510	241	2.34	-2.23	21.44	352
30	400	4500	4958	12.26	6.36	62	6696	215	2.13	-2.04	20.69	386
30	440	4500	5178	11.87	6.00	60	6860	193	1.97	-1.88	20.03	417
30	480	4500	5369	11.52	5.69	59	7005	175	1.83	-1.75	19.44	444
30	520	4500	5530	11.23	5.41	58	7130	161	1.72	-1.65	18.95	497
30	560	4500	5664	10.99	5.17	57	7234	149	1.63	-1.57	18.55	528
30	360	5000	5110	13.46	7.77	64	7149	252	2.28	-2.18	22.72	334
30	400	5000	5397	13.01	7.33	62	7357	225	2.08	-1.99	21.96	369
30	440	5000	5646	12.61	6.95	61	7542	202	1.92	-1.84	21.28	400
30	480	5000	5864	12.25	6.60	59	7706	183	1.78	-1.71	20.68	428
30	520	5000	6048	11.95	6.30	58	7847	168	1.68	-1.61	20.17	451
30	560	5000	6201	11.70	6.05	57	7966	156	1.59	-1.53	19.75	471
30	360	6000	5860	14.95	9.65	65	8387	275	2.20	-2.11	25.23	319
30	400	6000	6210	14.47	9.17	63	8635	246	2.01	-1.93	24.42	338
30	440	6000	6517	14.05	8.74	61	8858	221	1.85	-1.78	23.71	370
30	480	6000	6786	13.66	8.35	60	9058	201	1.72	-1.66	23.06	398
30	520	6000	7015	13.35	8.01	59	9231	185	1.62	-1.56	22.53	421
30	560	6000	7206	13.09	7.73	58	9377	172	1.54	-1.48	22.09	441

Table 6-19. (Sheet 3)

DIVE BOMBING TABLES
FOR
CBU-52B/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 1800 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	WIND CORRECTION FACTOR TAIL MILS/KNOT	WIND CORRECTION FACTOR CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
30	400	7000	6954	15.88	10.88	64	9867	266	1.97	-1.90	26.80	323
30	440	7000	7316	15.44	10.42	62	10125	241	1.82	-1.75	26.06	344
30	480	7000	7635	15.04	10.00	61	10358	219	1.69	-1.63	25.38	372
30	520	7000	7907	14.71	9.64	60	10560	202	1.59	-1.53	24.83	395
30	560	7000	8134	14.44	9.34	59	10731	188	1.51	-1.46	24.37	413
45	440	4500	3468	9.47	4.66	64	5681	130	2.28	-2.20	15.98	314
45	480	4500	3565	9.05	4.36	63	5741	117	2.13	-2.06	15.27	328
45	520	4500	3644	8.71	4.11	62	5790	106	2.01	-1.95	14.70	340
45	560	4500	3709	8.42	3.90	61	5832	97	1.92	-1.86	14.21	351
45	440	5000	3800	10.15	5.45	65	6280	137	2.22	-2.14	17.13	305
45	480	5000	3911	9.72	5.12	63	6348	123	2.08	-2.01	16.41	320
45	520	5000	4002	9.35	4.83	62	6404	111	1.96	-1.90	15.78	333
45	560	5000	4077	9.05	4.59	62	6452	102	1.87	-1.81	15.27	343
45	440	6000	4429	11.48	6.97	65	7458	151	2.13	-2.06	19.38	291
45	480	6000	4570	11.02	6.58	64	7542	135	2.00	-1.94	18.60	306
45	520	6000	4686	10.63	6.25	63	7613	123	1.89	-1.84	17.94	318
45	560	6000	4782	10.31	5.96	62	7673	113	1.80	-1.75	17.40	329
45	440	7000	5020	12.78	8.43	66	8614	164	2.07	-2.01	21.57	278
45	480	7000	5190	12.29	7.99	65	8714	148	1.94	-1.89	20.74	293
45	520	7000	5332	11.88	7.62	64	8799	135	1.84	-1.79	20.05	305
45	560	7000	5449	11.54	7.31	63	8871	125	1.76	-1.71	19.48	316
45	440	8000	5576	14.04	9.83	67	9752	178	2.03	-1.97	23.70	266
45	480	8000	5776	13.54	9.36	66	9867	161	1.91	-1.86	22.85	281
45	520	8000	5943	13.11	8.96	65	9966	147	1.81	-1.76	22.13	293
45	560	8000	6081	12.76	8.62	64	10049	136	1.73	-1.69	21.54	303

Table 6-19. (Sheet 4)

DIVE BOMBING TABLES
FOR
CBU-52B/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 2200 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
15	480	3500	5956	15.02	4.65	67	6908	271	1.93	-1.81	25.35	826
15	520	3500	6177	14.92	4.46	67	7100	255	1.81	-1.70	25.18	866
15	560	3500	6362	14.83	4.29	67	7261	242	1.72	-1.62	25.03	900
15	520	4000	7074	15.74	5.83	66	8127	254	1.66	-1.57	26.57	826
15	560	4000	7303	15.66	5.65	66	8327	240	1.57	-1.49	26.43	859
15	520	4500	7876	16.53	7.10	66	9071	258	1.57	-1.49	27.90	791
15	560	4500	8147	16.45	6.91	65	9307	244	1.49	-1.41	27.76	824
15	560	5000	8915	17.21	8.08	65	10221	250	1.43	-1.36	29.05	792
30	360	4000	4092	13.05	4.80	69	5722	252	2.78	-2.63	22.03	575
30	400	4000	4299	12.66	4.48	67	5872	227	2.56	-2.42	21.37	607
30	440	4000	4478	12.31	4.20	66	6004	207	2.38	-2.26	20.78	638
30	480	4000	4633	11.99	3.94	65	6121	190	2.23	-2.12	20.24	680
30	520	4000	4762	11.73	3.73	64	6219	176	2.11	-2.01	19.80	717
30	560	4000	4869	11.51	3.54	63	6301	165	2.01	-1.92	19.43	750
30	360	4500	4546	13.82	5.91	68	6397	258	2.64	-2.51	23.33	552
30	400	4500	4787	13.40	5.54	67	6570	232	2.43	-2.31	22.62	586
30	440	4500	4996	13.03	5.22	66	6724	211	2.25	-2.14	21.99	616
30	480	4500	5176	12.71	4.93	65	6859	193	2.11	-2.01	21.45	658
30	520	4500	5328	12.43	4.67	64	6974	179	1.99	-1.90	20.98	695
30	560	4500	5453	12.20	4.46	63	7070	167	1.90	-1.82	20.59	727
30	360	5000	4971	14.56	6.96	69	7051	266	2.54	-2.42	24.57	532
30	400	5000	5245	14.13	6.56	67	7246	239	2.33	-2.23	23.85	567
30	440	5000	5483	13.75	6.19	66	7420	217	2.16	-2.07	23.21	598
30	480	5000	5690	13.41	5.87	65	7575	198	2.02	-1.94	22.63	625
30	520	5000	5865	13.12	5.59	64	7707	183	1.91	-1.83	22.14	649
30	560	5000	6009	12.89	5.35	63	7817	171	1.82	-1.75	21.76	706
30	360	6000	5748	16.00	8.91	69	8309	284	2.41	-2.30	27.00	499
30	400	6000	6087	15.54	8.45	67	8547	256	2.21	-2.11	26.23	535
30	440	6000	6383	15.14	8.03	66	8760	232	2.05	-1.96	25.55	566
30	480	6000	6643	14.78	7.66	65	8952	212	1.91	-1.84	24.95	594
30	520	6000	6863	14.47	7.34	64	9116	196	1.80	-1.73	24.42	618
30	560	6000	7045	14.23	7.06	64	9254	183	1.72	-1.65	24.02	637
30	400	7000	6852	16.91	10.20	68	9795	273	2.13	-2.05	28.54	502
30	440	7000	7204	16.49	9.75	67	10045	248	1.97	-1.90	27.83	539
30	480	7000	7514	16.11	9.34	65	10269	227	1.84	-1.77	27.19	566
30	520	7000	7777	15.80	8.99	65	10463	210	1.74	-1.68	26.67	590
30	560	7000	7997	15.55	8.70	64	10628	196	1.66	-1.60	26.25	609
45	360	4500	3130	11.48	4.67	71	5482	179	2.97	-2.86	19.38	458
45	400	4500	3264	10.94	4.32	69	5559	159	2.75	-2.65	18.46	476
45	440	4500	3377	10.47	4.01	68	5626	143	2.57	-2.48	17.67	491
45	480	4500	3473	10.06	3.75	67	5684	129	2.42	-2.33	16.98	505
45	520	4500	3552	9.71	3.52	66	5733	118	2.29	-2.21	16.39	517
45	560	4500	3616	9.42	3.33	65	5773	110	2.19	-2.12	15.90	556
45	360	5000	3434	12.18	5.56	71	6066	185	2.86	-2.75	20.56	449
45	400	5000	3587	11.63	5.16	69	6154	164	2.65	-2.55	19.63	467
45	440	5000	3716	11.13	4.82	68	6230	147	2.47	-2.39	18.79	483
45	480	5000	3825	10.70	4.51	67	6295	134	2.33	-2.25	18.06	497
45	520	5000	3915	10.34	4.25	66	6350	122	2.21	-2.14	17.45	510
45	560	5000	3989	10.04	4.03	65	6396	113	2.11	-2.04	16.95	520

Table 6-19. (Sheet 5)

DIVE BOMBING TABLES
FOR
CBU-52B/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 2200 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	WIND CORRECTION FACTOR TAIL MILS/KNOT	WIND CORRECTION FACTOR CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
45	360	6000	4003	13.55	7.26	71	7213	198	2.69	-2.60	22.87	432
45	400	6000	4194	12.96	6.79	70	7320	176	2.50	-2.41	21.87	451
45	440	6000	4356	12.43	6.37	69	7414	158	2.34	-2.26	20.98	467
45	480	6000	4495	11.97	6.00	68	7497	143	2.20	-2.13	20.20	482
45	520	6000	4609	11.59	5.68	67	7566	131	2.09	-2.02	19.56	495
45	560	6000	4703	11.27	5.42	66	7624	122	2.00	-1.94	19.02	506
45	360	7000	4530	14.88	8.86	72	8338	212	2.58	-2.49	25.11	412
45	400	7000	4759	14.25	8.32	71	8465	189	2.39	-2.32	24.05	437
45	440	7000	4956	13.70	7.85	69	8577	170	2.24	-2.17	23.12	454
45	480	7000	5123	13.22	7.43	68	8674	154	2.11	-2.05	22.31	469
45	520	7000	5263	12.81	7.07	67	8758	142	2.01	-1.95	21.62	481
45	560	7000	5378	12.48	6.77	67	8827	131	1.92	-1.87	21.06	492
45	360	8000	5022	16.16	10.38	73	9446	226	2.49	-2.41	27.27	403
45	400	8000	5289	15.52	9.79	71	9590	202	2.32	-2.25	26.19	415
45	440	8000	5520	14.94	9.27	70	9720	182	2.17	-2.11	25.22	442
45	480	8000	5717	14.44	8.81	69	9833	166	2.05	-1.99	24.37	457
45	520	8000	5881	14.02	8.42	68	9929	152	1.95	-1.90	23.66	469
45	560	8000	6017	13.68	8.09	67	10010	141	1.87	-1.82	23.09	479
45	360	9000	5485	17.42	11.83	73	10540	239	2.42	-2.35	29.40	396
45	400	9000	5789	16.75	11.20	72	10701	215	2.26	-2.19	28.27	407
45	440	9000	6053	16.15	10.64	71	10846	194	2.12	-2.06	27.26	417
45	480	9000	6279	15.64	10.15	70	10974	177	2.00	-1.95	26.40	446
45	520	9000	6467	15.22	9.74	69	11083	163	1.91	-1.86	25.69	458
45	560	9000	6624	14.86	9.39	68	11175	152	1.84	-1.79	25.08	468
45	360	10000	5923	18.64	13.21	74	11622	251	2.37	-2.30	31.46	390
45	400	10000	6263	17.95	12.56	72	11799	227	2.21	-2.15	30.30	401
45	440	10000	6560	17.35	11.97	71	11960	206	2.08	-2.02	29.28	410
45	480	10000	6814	16.82	11.46	70	12101	188	1.97	-1.92	28.39	419
45	520	10000	7025	16.39	11.02	69	12221	174	1.88	-1.83	27.66	447
45	560	10000	7202	16.03	10.66	69	12324	162	1.81	-1.76	27.06	457

Table 6-19. (Sheet 6)

DIVE BOMBING TABLES
FOR
CBU-52B/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 2500 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	WIND CORRECTION FACTOR TAIL MILS/KNOT	WIND CORRECTION FACTOR CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
15	560	4000	6883	16.61	4.85	71	7961	266	1.83	-1.72	28.03	1019
15	560	4500	7785	17.41	6.16	70	8992	263	1.69	-1.60	29.38	981
30	360	4500	4391	14.70	5.25	72	6287	276	2.92	-2.76	24.81	704
30	400	4500	4620	14.30	4.91	71	6449	250	2.69	-2.55	24.14	737
30	440	4500	4818	13.95	4.61	70	6593	229	2.51	-2.38	23.54	766
30	480	4500	4989	13.63	4.34	69	6719	212	2.36	-2.24	23.00	808
30	520	4500	5133	13.37	4.11	68	6826	197	2.24	-2.13	22.57	845
30	560	4500	5251	13.15	3.91	68	6915	186	2.15	-2.05	22.19	877
30	360	5000	4833	15.43	6.34	72	6954	280	2.77	-2.63	26.04	682
30	400	5000	5095	15.02	5.95	71	7139	254	2.56	-2.43	25.35	717
30	440	5000	5323	14.65	5.61	70	7303	232	2.38	-2.27	24.73	747
30	480	5000	5520	14.32	5.30	69	7448	214	2.24	-2.13	24.17	774
30	520	5000	5686	14.05	5.04	68	7572	199	2.13	-2.03	23.71	824
30	560	5000	5823	13.83	4.81	68	7675	187	2.03	-1.94	23.34	855
30	360	6000	5636	16.85	8.34	72	8232	294	2.59	-2.47	28.44	647
30	400	6000	5965	16.41	7.89	71	8461	266	2.38	-2.28	27.70	682
30	440	6000	6251	16.02	7.49	70	8665	242	2.22	-2.12	27.04	713
30	480	6000	6501	15.67	7.13	69	8847	223	2.08	-1.99	26.45	741
30	520	6000	6712	15.38	6.82	68	9003	207	1.97	-1.89	25.96	765
30	560	6000	6887	15.15	6.55	68	9134	194	1.88	-1.81	25.57	785
30	400	7000	6749	17.75	9.68	71	9724	281	2.27	-2.18	29.96	654
30	440	7000	7092	17.35	9.24	70	9965	256	2.11	-2.03	29.28	685
30	480	7000	7393	16.98	8.84	69	10181	235	1.98	-1.90	28.66	713
30	520	7000	7649	16.68	8.50	68	10369	218	1.87	-1.80	28.15	736
30	560	7000	7861	16.44	8.21	68	10526	205	1.79	-1.72	27.75	755
45	360	5000	3353	12.99	5.03	74	6020	196	3.10	-2.97	21.92	582
45	400	5000	3503	12.44	4.66	72	6105	176	2.88	-2.77	21.00	600
45	440	5000	3630	11.95	4.34	71	6179	159	2.70	-2.60	20.17	616
45	480	5000	3738	11.53	4.06	70	6243	145	2.55	-2.46	19.46	630
45	520	5000	3826	11.17	3.82	69	6296	133	2.43	-2.34	18.85	642
45	560	5000	3899	10.87	3.61	68	6341	124	2.33	-2.25	18.35	653
45	360	6000	3935	14.34	6.76	74	7175	206	2.88	-2.78	24.20	565
45	400	6000	4122	13.75	6.31	73	7279	185	2.68	-2.59	23.21	583
45	440	6000	4282	13.23	5.91	71	7371	167	2.52	-2.43	22.33	600
45	480	6000	4417	12.78	5.56	70	7450	152	2.38	-2.30	21.57	615
45	520	6000	4530	12.40	5.26	70	7518	140	2.27	-2.19	20.93	627
45	560	6000	4622	12.08	5.00	69	7574	130	2.17	-2.10	20.39	638
45	360	7000	4471	15.65	8.39	74	8306	218	2.73	-2.64	26.41	550
45	400	7000	4696	15.03	7.87	73	8429	195	2.55	-2.46	25.37	569
45	440	7000	4890	14.48	7.41	72	8539	177	2.39	-2.31	24.44	586
45	480	7000	5054	14.00	7.00	71	8634	161	2.26	-2.19	23.63	601
45	520	7000	5191	13.61	6.65	70	8715	148	2.16	-2.09	22.97	614
45	560	7000	5304	13.28	6.36	69	8783	138	2.07	-2.01	22.41	624
45	360	8000	4970	16.92	9.93	75	9418	230	2.62	-2.54	28.56	522
45	400	8000	5234	16.28	9.35	73	9560	207	2.45	-2.37	27.48	557
45	440	8000	5461	15.71	8.84	72	9686	187	2.30	-2.23	26.52	574
45	480	8000	5655	15.21	8.40	71	9797	171	2.18	-2.11	25.67	589
45	520	8000	5816	14.80	8.01	71	9891	158	2.08	-2.02	24.98	601
45	560	8000	5950	14.46	7.69	70	9970	147	2.00	-1.94	24.41	611

Table 6-19. (Sheet 7)

DIVE BOMBING TABLES
FOR
CBU-52B/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 2500 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
45	360	9000	5439	18.16	11.39	75	10516	243	2.54	-2.46	30.65	514
45	400	9000	5739	17.49	10.78	74	10674	219	2.37	-2.30	29.52	525
45	440	9000	6000	16.91	10.23	73	10817	198	2.23	-2.17	28.54	563
45	480	9000	6223	16.40	9.75	72	10942	181	2.11	-2.05	27.68	577
45	520	9000	6408	15.98	9.34	71	11048	167	2.02	-1.96	26.97	589
45	560	9000	6563	15.63	9.00	71	11139	156	1.94	-1.89	26.38	599
45	360	10000	5882	19.36	12.79	75	11602	254	2.47	-2.40	32.68	508
45	400	10000	6218	18.69	12.15	74	11776	230	2.31	-2.25	31.54	519
45	440	10000	6511	18.08	11.57	73	11933	209	2.18	-2.12	30.52	528
45	480	10000	6762	17.57	11.06	72	12072	191	2.07	-2.01	29.65	537
45	520	10000	6971	17.14	10.63	72	12190	177	1.98	-1.92	28.93	579
45	560	10000	7146	16.79	10.27	71	12291	166	1.90	-1.85	28.34	588

Table 6-20. (Sheet 1)

DIVE BOMBING TABLES
FOR
CBU-58/B OR CBU-71/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 1500 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	WIND CORRECTION FACTOR TAIL MILS/KNOT	WIND CORRECTION FACTOR CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
15	360	2500	4213	11.89	4.37	61	4899	276	2.18	-2.03	20.07	767
15	400	2500	4468	11.72	4.14	60	5120	250	1.97	-1.84	19.78	827
15	440	2500	4694	11.57	3.92	59	5318	229	1.80	-1.68	19.53	882
15	480	2500	4893	11.43	3.73	58	5495	212	1.66	-1.56	19.29	933
15	520	2500	5065	11.31	3.56	58	5648	198	1.55	-1.46	19.09	995
15	560	2500	5209	11.21	3.41	57	5778	187	1.47	-1.38	18.92	1017
15	400	3000	5270	12.65	5.70	59	6064	257	1.81	-1.70	21.35	776
15	440	3000	5560	12.48	5.45	58	6318	234	1.64	-1.55	21.06	833
15	480	3000	5817	12.33	5.22	57	6545	216	1.51	-1.42	20.81	885
15	520	3000	6042	12.20	5.02	57	6746	200	1.40	-1.33	20.59	939
15	560	3000	6232	12.10	4.84	56	6916	188	1.32	-1.25	20.42	964
15	440	3500	6319	13.35	6.82	58	7224	245	1.56	-1.48	22.53	792
15	480	3500	6631	13.20	6.57	57	7498	225	1.43	-1.36	22.28	844
15	520	3500	6905	13.06	6.35	56	7741	208	1.33	-1.26	22.04	890
15	560	3500	7139	12.96	6.15	55	7951	195	1.25	-1.19	21.87	916
15	440	4000	7002	14.20	8.08	57	8064	258	1.52	-1.44	23.97	757
15	480	4000	7365	14.03	7.81	56	8381	237	1.39	-1.32	23.68	809
15	520	4000	7685	13.90	7.58	56	8664	219	1.29	-1.23	23.46	846
15	560	4000	7958	13.79	7.38	55	8907	205	1.21	-1.15	23.27	873
30	440	3000	3704	9.09	3.56	57	4767	159	2.09	-1.99	15.34	711
30	480	3000	3820	8.78	3.33	56	4857	144	1.94	-1.85	14.82	731
30	520	3000	3917	8.52	3.14	55	4934	131	1.82	-1.74	14.38	755
30	560	3000	3997	8.31	2.97	54	4998	122	1.73	-1.66	14.03	775
30	440	3500	4252	9.88	4.61	57	5507	167	1.98	-1.89	16.68	685
30	480	3500	4393	9.55	4.34	56	5617	150	1.84	-1.76	16.12	698
30	520	3500	4513	9.28	4.10	55	5711	137	1.73	-1.65	15.66	724
30	560	3500	4611	9.05	3.90	54	5789	127	1.64	-1.57	15.27	746
30	440	4000	4766	10.65	5.61	58	6222	176	1.91	-1.82	17.98	642
30	480	4000	4934	10.31	5.30	56	6352	159	1.77	-1.70	17.40	694
30	520	4000	5076	10.02	5.04	55	6463	145	1.66	-1.59	16.91	695
30	560	4000	5194	9.79	4.81	55	6556	134	1.58	-1.51	16.52	718
30	440	4500	5252	11.41	6.57	58	6916	186	1.86	-1.78	19.26	626
30	480	4500	5447	11.06	6.23	57	7065	168	1.72	-1.66	18.67	674
30	520	4500	5612	10.76	5.94	56	7193	153	1.62	-1.55	18.16	689
30	560	4500	5750	10.51	5.69	55	7302	141	1.53	-1.47	17.74	692
30	440	5000	5714	12.16	7.49	59	7593	196	1.82	-1.75	20.52	611
30	480	5000	5935	11.79	7.13	57	7760	178	1.69	-1.63	19.90	655
30	520	5000	6123	11.48	6.81	56	7905	162	1.59	-1.53	19.38	671
30	560	5000	6280	11.22	6.55	55	8027	150	1.50	-1.45	18.94	684

Table 6-20. (Sheet 2)

DIVE BOMBING TABLES
FOR
CBU-58/B OR CBU-71/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 1800 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD	TAIL	CROSS	IMPACT PATTERN DIAMETER FT
									MILS/KNOT	MILS/KNOT	FT/KNOT	
15	440	3000	5224	13.54	4.56	65	6024	261	1.96	-1.84	22.85	989
15	480	3000	5452	13.41	4.35	65	6223	243	1.82	-1.71	22.63	1040
15	520	3000	5649	13.30	4.16	64	6396	228	1.71	-1.60	22.45	1108
15	560	3000	5815	13.21	4.00	64	6543	216	1.62	-1.52	22.30	1131
15	440	3500	6047	14.40	6.01	64	6987	264	1.80	-1.70	24.30	944
15	480	3500	6333	14.27	5.78	64	7236	244	1.67	-1.57	24.08	996
15	520	3500	6582	14.15	5.56	63	7455	228	1.55	-1.47	23.88	1055
15	560	3500	6793	14.06	5.38	63	7642	215	1.47	-1.39	23.73	1081
15	480	4000	7116	15.09	7.08	63	8163	251	1.58	-1.49	25.47	957
15	520	4000	7413	14.97	6.85	62	8423	234	1.47	-1.39	25.27	1008
15	560	4000	7666	14.88	6.65	62	8647	220	1.38	-1.31	25.11	1035
15	520	4500	8168	15.76	8.04	62	9326	243	1.42	-1.35	26.60	966
15	560	4500	8460	15.67	7.84	62	9582	228	1.33	-1.27	26.45	993
15	520	5000	8862	16.53	9.17	62	10175	253	1.38	-1.32	27.90	927
15	560	5000	9190	16.44	8.96	61	10462	237	1.30	-1.24	27.75	955
30	360	3500	3764	11.58	4.57	66	5140	227	2.68	-2.53	19.54	742
30	400	3500	3947	11.19	4.26	64	5275	203	2.45	-2.32	18.89	775
30	440	3500	4105	10.84	3.98	63	5395	184	2.27	-2.16	18.30	828
30	480	3500	4240	10.54	3.74	62	5498	168	2.12	-2.02	17.79	854
30	520	3500	4353	10.27	3.53	61	5586	155	2.00	-1.91	17.33	878
30	560	3500	4446	10.06	3.35	60	5658	145	1.91	-1.82	16.98	899
30	360	4000	4234	12.37	5.69	66	5825	235	2.54	-2.41	20.88	722
30	400	4000	4450	11.96	5.33	64	5984	210	2.32	-2.21	20.19	755
30	440	4000	4637	11.59	5.01	63	6124	190	2.15	-2.05	19.56	785
30	480	4000	4798	11.27	4.73	62	6247	173	2.00	-1.91	19.02	822
30	520	4000	4934	10.99	4.48	61	6352	159	1.89	-1.81	18.55	848
30	560	4000	5046	10.77	4.27	60	6439	148	1.80	-1.72	18.18	870
30	360	4500	4671	13.13	6.75	66	6486	245	2.44	-2.32	22.16	704
30	400	4500	4921	12.71	6.35	64	6668	218	2.23	-2.13	21.45	738
30	440	4500	5138	12.33	5.99	63	6830	197	2.06	-1.97	20.81	768
30	480	4500	5326	11.99	5.68	62	6973	179	1.92	-1.84	20.24	830
30	520	4500	5484	11.70	5.40	61	7094	165	1.81	-1.73	19.75	820
30	560	4500	5616	11.47	5.16	60	7196	153	1.72	-1.65	19.36	843
30	360	5000	5082	13.89	7.75	66	7129	255	2.37	-2.26	23.44	688
30	400	5000	5365	13.44	7.32	64	7334	228	2.17	-2.07	22.68	722
30	440	5000	5611	13.05	6.94	63	7516	205	2.00	-1.91	22.03	753
30	480	5000	5826	12.70	6.59	62	7677	187	1.86	-1.79	21.44	810
30	520	5000	6008	12.40	6.29	61	7816	171	1.75	-1.68	20.93	826
30	560	5000	6159	12.16	6.03	60	7933	159	1.67	-1.60	20.52	838
30	360	6000	5840	15.34	9.63	67	8373	276	2.27	-2.18	25.89	661
30	400	6000	6187	14.88	9.15	65	8619	248	2.08	-1.99	25.11	695
30	440	6000	6492	14.46	8.72	64	8840	223	1.92	-1.84	24.41	726
30	480	6000	6759	14.09	8.33	62	9038	203	1.79	-1.72	23.78	775
30	520	6000	6986	13.77	7.99	61	9209	187	1.68	-1.62	23.24	792
30	560	6000	7175	13.52	7.71	61	9353	174	1.60	-1.54	22.82	805

Table 6-20. (Sheet 3)

DIVE BOMBING TABLES
FCR
CBU-58/B OR CBU-71/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 1800 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	WIND CORRECTION FACTOR TAIL MILS/KNOT	WIND CORRECTION FACTOR CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
30	400	7000	6939	16.26	10.85	66	9856	267	2.02	-1.94	27.44	673
30	440	7000	7299	15.82	10.39	64	10113	242	1.87	-1.80	26.70	721
30	480	7000	7616	15.43	9.97	63	10344	221	1.74	-1.68	26.04	743
30	520	7000	7886	15.11	9.61	62	10545	203	1.64	-1.58	25.50	761
30	560	7000	8112	14.85	9.31	61	10715	189	1.56	-1.51	25.06	775
45	440	4500	3447	9.85	4.65	66	5668	133	2.38	-2.30	16.62	662
45	480	4500	3543	9.44	4.36	65	5727	120	2.23	-2.16	15.93	689
45	520	4500	3623	9.09	4.10	64	5777	109	2.11	-2.04	15.34	699
45	560	4500	3687	8.80	3.89	63	5818	100	2.02	-1.95	14.85	707
45	440	5000	3781	10.52	5.44	66	6269	139	2.31	-2.23	17.76	653
45	480	5000	3891	10.09	5.11	65	6336	125	2.16	-2.09	17.03	676
45	520	5000	3982	9.73	4.82	64	6392	114	2.05	-1.98	16.42	687
45	560	5000	4057	9.43	4.58	63	6439	105	1.96	-1.90	15.92	695
45	440	6000	4415	11.83	6.96	67	7449	152	2.20	-2.13	19.97	637
45	480	6000	4554	11.37	6.56	66	7533	137	2.07	-2.00	19.19	652
45	520	6000	4670	10.98	6.23	65	7603	125	1.96	-1.90	18.53	664
45	560	6000	4766	10.66	5.95	64	7663	115	1.87	-1.82	17.99	674
45	440	7000	5009	13.11	8.41	68	8608	165	2.13	-2.06	22.13	614
45	480	7000	5178	12.62	7.97	67	8707	149	2.00	-1.94	21.30	630
45	520	7000	5319	12.22	7.60	66	8792	136	1.90	-1.85	20.62	643
45	560	7000	5436	11.88	7.28	65	8863	126	1.82	-1.77	20.05	654
45	440	8000	5569	14.36	9.81	68	9748	178	2.07	-2.02	24.24	594
45	480	8000	5768	13.85	9.33	67	9863	161	1.95	-1.90	23.38	610
45	520	8000	5934	13.43	8.93	66	9961	148	1.86	-1.81	22.67	624
45	560	8000	6072	13.09	8.59	66	10043	137	1.78	-1.73	22.09	635

Table 6-20. (Sheet 4)

DIVE BOMBING TABLES
FOR
CBU-58/B OR CBU-71/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 2200 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	WIND CORRECTION FACTOR TAIL MILS/KNOT	WIND CORRECTION FACTOR CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
15	520	3500	6025	15.56	4.45	71	6968	266	1.97	-1.84	26.26	1248
15	560	3500	6203	15.48	4.28	71	7122	253	1.87	-1.75	26.13	1267
15	520	4000	6941	16.39	5.82	70	8011	262	1.78	-1.68	27.66	1215
15	560	4000	7164	16.31	5.64	70	8205	249	1.69	-1.60	27.53	1234
15	560	4500	8025	17.10	6.89	69	9201	250	1.58	-1.50	28.86	1205
15	560	5000	8808	17.86	8.06	69	10128	255	1.51	-1.44	30.14	1179
30	360	4000	4024	13.66	4.80	72	5674	260	2.96	-2.80	23.06	931
30	400	4000	4225	13.28	4.47	70	5818	236	2.74	-2.59	22.41	977
30	440	4000	4398	12.94	4.19	69	5945	216	2.55	-2.42	21.84	1054
30	480	4000	4548	12.63	3.94	68	6057	199	2.40	-2.27	21.32	1087
30	520	4000	4673	12.38	3.72	68	6151	186	2.28	-2.16	20.89	1107
30	560	4000	4776	12.17	3.53	67	6230	175	2.18	-2.07	20.54	1124
30	360	4500	4486	14.41	5.91	71	6354	265	2.80	-2.65	24.32	911
30	400	4500	4721	14.01	5.54	70	6522	239	2.58	-2.45	23.65	959
30	440	4500	4924	13.65	5.21	69	6671	218	2.40	-2.28	23.04	1002
30	480	4500	5100	13.34	4.92	68	6801	201	2.25	-2.14	22.52	1067
30	520	4500	5248	13.07	4.66	68	6913	186	2.14	-2.04	22.06	1088
30	560	4500	5369	12.85	4.45	67	7005	175	2.04	-1.95	21.69	1106
30	360	5000	4918	15.15	6.95	71	7013	271	2.68	-2.54	25.57	895
30	400	5000	5186	14.73	6.54	70	7204	245	2.46	-2.35	24.86	942
30	440	5000	5419	14.36	6.18	69	7373	223	2.29	-2.18	24.24	985
30	480	5000	5621	14.03	5.86	68	7523	205	2.15	-2.05	23.68	1039
30	520	5000	5792	13.75	5.58	67	7652	190	2.04	-1.94	23.21	1058
30	560	5000	5933	13.52	5.34	67	7759	178	1.95	-1.86	22.82	1088
30	360	6000	5707	16.56	8.89	71	8281	288	2.51	-2.40	27.95	867
30	400	6000	6041	16.12	8.43	70	8514	259	2.31	-2.21	27.21	914
30	440	6000	6333	15.72	8.02	69	8724	236	2.14	-2.05	26.53	956
30	480	6000	6588	15.37	7.64	68	8911	216	2.01	-1.92	25.94	997
30	520	6000	6804	15.08	7.32	67	9072	200	1.90	-1.82	25.45	1018
30	560	6000	6983	14.84	7.04	67	9207	187	1.82	-1.74	25.05	1034
30	400	7000	6816	17.46	10.18	70	9770	276	2.21	-2.12	29.47	891
30	440	7000	7164	17.05	9.73	69	10016	251	2.05	-1.97	28.78	933
30	480	7000	7471	16.68	9.32	68	10238	230	1.92	-1.85	28.15	960
30	520	7000	7730	16.38	8.97	68	10428	213	1.82	-1.75	27.65	981
30	560	7000	7947	16.14	8.67	67	10590	199	1.74	-1.67	27.24	999
45	360	4500	3093	12.04	4.66	73	5460	185	3.14	-3.02	20.32	801
45	400	4500	3225	11.51	4.31	72	5536	165	2.92	-2.81	19.43	843
45	440	4500	3337	11.04	4.01	70	5602	149	2.74	-2.63	18.63	882
45	480	4500	3431	10.62	3.74	69	5659	135	2.58	-2.48	17.92	897
45	520	4500	3509	10.28	3.52	68	5706	124	2.45	-2.36	17.35	910
45	560	4500	3573	9.99	3.33	68	5746	116	2.35	-2.27	16.86	920
45	360	5000	3400	12.73	5.56	73	6046	190	3.01	-2.89	21.49	792
45	400	5000	3551	12.18	5.16	72	6133	169	2.80	-2.69	20.56	834
45	440	5000	3679	11.69	4.81	71	6208	152	2.62	-2.52	19.73	873
45	480	5000	3787	11.26	4.51	69	6272	138	2.47	-2.38	19.00	882
45	520	5000	3876	10.90	4.25	69	6326	127	2.35	-2.27	18.40	896
45	560	5000	3949	10.60	4.03	68	6371	118	2.25	-2.17	17.89	907

Table 6-20. (Sheet 5)

DIVE BOMBING TABLES
FOR
CBU-58/B OR CBU-71/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 2200 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
45	360	6000	3976	14.08	7.25	73	7198	201	2.81	-2.71	23.76	778
45	400	6000	4165	13.49	6.77	72	7304	180	2.61	-2.52	22.77	819
45	440	6000	4325	12.96	6.35	71	7396	162	2.45	-2.36	21.87	836
45	480	6000	4462	12.51	5.99	70	7477	147	2.31	-2.23	21.11	854
45	520	6000	4575	12.13	5.67	69	7545	135	2.20	-2.13	20.47	870
45	560	6000	4669	11.81	5.40	68	7603	125	2.11	-2.04	19.93	883
45	360	7000	4508	15.38	8.85	74	8326	214	2.67	-2.58	25.96	755
45	400	7000	4735	14.76	8.31	73	8451	192	2.49	-2.41	24.91	806
45	440	7000	4930	14.21	7.83	71	8562	173	2.33	-2.26	23.98	810
45	480	7000	5096	13.73	7.41	70	8658	157	2.20	-2.14	23.17	829
45	520	7000	5234	13.33	7.05	70	8740	144	2.10	-2.04	22.50	846
45	560	7000	5348	13.00	6.75	69	8809	134	2.01	-1.95	21.94	859
45	360	8000	5005	16.65	10.36	74	9437	227	2.57	-2.49	28.10	750
45	400	8000	5270	16.01	9.77	73	9580	204	2.40	-2.32	27.02	772
45	440	8000	5499	15.43	9.25	72	9708	184	2.25	-2.18	26.04	786
45	480	8000	5694	14.94	8.79	71	9819	168	2.13	-2.07	25.22	807
45	520	8000	5857	14.53	8.40	70	9915	154	2.03	-1.97	24.52	824
45	560	8000	5992	14.18	8.07	70	9995	143	1.95	-1.89	23.93	837
45	360	9000	5472	17.88	11.80	75	10533	240	2.49	-2.42	30.18	746
45	400	9000	5774	17.22	11.17	73	10693	216	2.33	-2.26	29.06	769
45	440	9000	6036	16.63	10.61	72	10837	195	2.19	-2.12	28.07	780
45	480	9000	6261	16.12	10.12	71	10964	178	2.07	-2.01	27.21	786
45	520	9000	6448	15.70	9.71	71	11071	164	1.98	-1.92	26.50	803
45	560	9000	6604	15.35	9.36	70	11163	153	1.90	-1.85	25.91	817
45	360	10000	5913	19.09	13.18	75	11617	252	2.43	-2.36	32.22	743
45	400	10000	6252	18.41	12.52	74	11794	227	2.27	-2.21	31.07	757
45	440	10000	6547	17.81	11.94	73	11953	206	2.14	-2.08	30.06	768
45	480	10000	6800	17.29	11.42	72	12093	189	2.03	-1.97	29.18	778
45	520	10000	7011	16.86	10.99	71	12213	175	1.94	-1.89	28.46	784
45	560	10000	7187	16.50	10.62	71	12315	163	1.86	-1.82	27.85	798

Table 6-20. (Sheet 6)

DIVE BOMBING TABLES
FOR
CBU-58/B OR CBU-71/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 2500 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	WIND CORRECTION FACTOR TAIL MILS/KNOT	WIND CORRECTION FACTOR CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
30	360	4500	4309	15.40	5.25	75	6230	285	3.11	-2.94	25.99	1084
30	400	4500	4531	15.02	4.90	74	6386	260	2.89	-2.73	25.35	1131
30	440	4500	4722	14.68	4.60	73	6523	239	2.70	-2.56	24.78	1195
30	480	4500	4887	14.37	4.33	72	6643	222	2.55	-2.42	24.25	1227
30	520	4500	5025	14.12	4.10	72	6745	208	2.43	-2.30	23.83	1248
30	560	4500	5139	13.91	3.90	71	6831	197	2.33	-2.22	23.48	1265
30	360	5000	4759	16.13	6.33	75	6903	288	2.95	-2.79	27.22	1065
30	400	5000	5015	15.73	5.94	74	7082	262	2.73	-2.59	26.55	1113
30	440	5000	5235	15.37	5.60	73	7239	240	2.55	-2.42	25.94	1156
30	480	5000	5427	15.06	5.30	72	7379	222	2.40	-2.28	25.42	1222
30	520	5000	5587	14.79	5.03	72	7498	208	2.28	-2.17	24.96	1229
30	560	5000	5720	14.58	4.80	71	7597	196	2.19	-2.09	24.61	1247
30	360	6000	5577	17.54	8.33	75	8192	300	2.72	-2.59	29.60	1036
30	400	6000	5898	17.11	7.88	74	8413	271	2.52	-2.40	28.88	1083
30	440	6000	6178	16.73	7.48	73	8612	248	2.35	-2.24	28.24	1126
30	480	6000	6423	16.39	7.12	72	8789	229	2.21	-2.11	27.66	1178
30	520	6000	6629	16.11	6.80	72	8941	213	2.09	-2.00	27.19	1198
30	560	6000	6800	15.88	6.54	71	9069	200	2.01	-1.92	26.80	1215
30	400	7000	6695	18.44	9.66	74	9686	285	2.38	-2.28	31.12	1059
30	440	7000	7032	18.04	9.22	73	9922	260	2.22	-2.12	30.45	1101
30	480	7000	7328	17.68	8.82	72	10134	240	2.08	-2.00	29.84	1140
30	520	7000	7579	17.39	8.48	72	10317	223	1.98	-1.90	29.35	1161
30	560	7000	7788	17.16	8.19	71	10472	209	1.89	-1.82	28.96	1178
45	360	5000	3305	13.67	5.02	76	5994	203	3.29	-3.16	23.07	959
45	400	5000	3452	13.12	4.65	75	6076	182	3.07	-2.95	22.14	1001
45	440	5000	3576	12.64	4.33	74	6147	166	2.89	-2.78	21.33	1040
45	480	5000	3682	12.22	4.05	73	6209	152	2.74	-2.63	20.62	1060
45	520	5000	3769	11.86	3.81	72	6261	141	2.61	-2.51	20.02	1073
45	560	5000	3841	11.57	3.61	71	6305	132	2.51	-2.42	19.53	1084
45	360	6000	3894	15.00	6.75	76	7153	211	3.04	-2.92	25.32	943
45	400	6000	4078	14.42	6.30	75	7255	190	2.84	-2.73	24.34	984
45	440	6000	4235	13.90	5.90	74	7344	172	2.67	-2.57	23.46	1023
45	480	6000	4369	13.45	5.55	73	7422	157	2.52	-2.44	22.70	1031
45	520	6000	4480	13.07	5.25	72	7488	145	2.41	-2.33	22.06	1046
45	560	6000	4570	12.76	4.99	72	7542	135	2.32	-2.24	21.54	1059
45	360	7000	4437	16.29	8.37	76	8288	222	2.86	-2.76	27.49	931
45	400	7000	4659	15.68	7.85	75	8409	199	2.67	-2.58	26.46	971
45	440	7000	4850	15.13	7.39	74	8516	180	2.51	-2.43	25.54	986
45	480	7000	5013	14.66	6.98	73	8610	165	2.38	-2.30	24.74	1006
45	520	7000	5147	14.27	6.64	73	8689	152	2.28	-2.20	24.08	1022
45	560	7000	5259	13.94	6.34	72	8755	142	2.19	-2.12	23.53	1035
45	360	8000	4941	17.54	9.91	77	9403	233	2.73	-2.64	29.60	914
45	400	8000	5202	16.90	9.33	75	9543	210	2.55	-2.47	28.52	960
45	440	8000	5427	16.34	8.82	74	9667	190	2.40	-2.33	27.58	962
45	480	8000	5619	15.85	8.37	74	9776	174	2.28	-2.21	26.75	982
45	520	8000	5778	15.44	7.99	73	9868	161	2.18	-2.11	26.06	999
45	560	8000	5910	15.11	7.67	72	9946	150	2.10	-2.04	25.50	1013

Table 6-20. (Sheet 7)

DIVE BOMBING TABLES
FOR
CBU-58/B OR CBU-71/B DISPENSER AND BOMB
FUZE FUNCTION ALTITUDE = 2500 FEET

DIVE ANGLE DEG	TAS KTS	ALT ABV TGT FT	BOMB RANGE FT	TIME OF FALL SEC	FUZE FUNCTION TIME SEC	IMPACT ANGLE DEG	SLANT RANGE FT	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTOR HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KNOT	IMPACT PATTERN DIAMETER FT
45	360	9000	5415	18.76	11.37	77	10503	245	2.63	-2.55	31.66	910
45	400	9000	5713	18.10	10.75	76	10660	221	2.46	-2.39	30.55	943
45	440	9000	5971	17.52	10.20	75	10801	200	2.32	-2.25	29.57	940
45	480	9000	6192	17.02	9.72	74	10924	184	2.20	-2.14	28.73	961
45	520	9000	6376	16.60	9.31	73	11030	170	2.11	-2.05	28.02	978
45	560	9000	6529	16.26	8.97	73	11119	158	2.03	-1.97	27.44	992
45	360	10000	5862	19.95	12.76	77	11592	256	2.55	-2.47	33.67	906
45	400	10000	6197	19.28	12.12	76	11764	231	2.39	-2.32	32.54	930
45	440	10000	6487	18.68	11.54	75	11920	211	2.26	-2.19	31.53	941
45	480	10000	6736	18.17	11.03	74	12057	193	2.14	-2.08	30.67	941
45	520	10000	6944	17.75	10.60	74	12175	179	2.05	-2.00	29.96	958
45	560	10000	7118	17.40	10.24	73	12275	167	1.98	-1.93	29.37	972

Table 6-21. (Sheet 1)

LEVEL BOMBING TABLES
FOR
UNFINNED BLU-1/B FIRE BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS DRIFT	CROSS CRAB
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KNOT	
0	50	360	857	1.54	859	6	66	.21	-.20	2.6	.2
		400	947	1.54	949	5	59	.17	-.16	2.6	.2
		440	1037	1.55	1038	5	54	.14	-.13	2.6	.3
		480	1125	1.55	1126	5	50	.12	-.11	2.6	.3
		520	1213	1.56	1214	4	46	.10	-.10	2.6	.3
		560	1299	1.56	1300	4	43	.09	-.09	2.6	.3
0	75	360	1068	1.95	1071	8	76	.25	-.23	3.3	.3
		400	1179	1.96	1182	7	69	.20	-.19	3.3	.4
		440	1288	1.97	1291	6	63	.17	-.16	3.3	.4
		480	1396	1.98	1398	6	58	.14	-.14	3.3	.4
		520	1503	1.99	1505	6	54	.12	-.12	3.4	.5
		560	1610	2.00	1612	5	50	.11	-.10	3.4	.5
0	100	360	1242	2.31	1246	9	86	.28	-.26	3.9	.5
		400	1370	2.32	1373	8	78	.23	-.22	3.9	.5
		440	1495	2.34	1498	8	71	.19	-.18	3.9	.5
		480	1618	2.35	1621	7	66	.17	-.16	4.0	.6
		520	1739	2.36	1742	7	61	.14	-.14	4.0	.6
		560	1858	2.37	1861	6	57	.13	-.12	4.0	.7
0	125	360	1393	2.63	1398	10	94	.31	-.29	4.4	.6
		400	1534	2.65	1539	9	86	.26	-.24	4.5	.6
		440	1672	2.66	1677	9	78	.22	-.21	4.5	.7
		480	1808	2.67	1812	8	73	.19	-.18	4.5	.7
		520	1941	2.69	1945	8	68	.16	-.16	4.5	.8
		560	2072	2.70	2076	7	63	.14	-.14	4.6	.9
0	150	360	1526	2.92	1533	11	102	.34	-.32	4.9	.7
		400	1679	2.94	1685	10	93	.29	-.27	5.0	.8
		440	1828	2.96	1835	10	85	.24	-.23	5.0	.8
		480	1975	2.97	1981	9	79	.21	-.20	5.0	.9
		520	2119	2.99	2125	8	74	.18	-.17	5.0	1.0
		560	2259	3.00	2264	8	69	.16	-.15	5.1	1.0
0	200	360	1757	3.45	1768	13	117	.40	-.38	5.8	.9
		400	1929	3.47	1940	12	107	.34	-.32	5.9	1.0
		440	2098	3.49	2108	11	98	.28	-.27	5.9	1.1
		480	2263	3.51	2272	11	91	.25	-.23	5.9	1.2
		520	2425	3.53	2433	10	85	.21	-.20	6.0	1.3
		560	2583	3.55	2590	10	80	.19	-.18	6.0	1.4
0	250	360	1954	3.91	1970	15	131	.46	-.43	6.6	1.2
		400	2143	3.94	2158	14	119	.38	-.36	6.6	1.3
		440	2328	3.96	2341	13	110	.33	-.31	6.7	1.4
		480	2508	3.99	2520	12	102	.28	-.27	6.7	1.5
		520	2683	4.01	2695	12	95	.25	-.24	6.8	1.6
		560	2854	4.03	2865	11	90	.22	-.21	6.8	1.7
0	300	360	2128	4.34	2149	17	144	.51	-.48	7.3	1.4
		400	2331	4.37	2350	16	131	.43	-.40	7.4	1.5
		440	2529	4.40	2547	15	121	.36	-.34	7.4	1.7
		480	2721	4.43	2738	14	112	.32	-.30	7.5	1.8
		520	2909	4.45	2924	13	105	.28	-.26	7.5	1.9
		560	3091	4.48	3105	13	99	.25	-.24	7.6	2.0
0	350	360	2284	4.73	2311	19	155	.56	-.52	8.0	1.6
		400	2500	4.77	2524	17	142	.47	-.44	8.0	1.8
		440	2709	4.80	2731	16	131	.40	-.38	8.1	1.9
		480	2912	4.83	2933	15	122	.35	-.33	8.2	2.1
		520	3109	4.86	3129	15	114	.31	-.29	8.2	2.2
		560	3301	4.89	3320	14	108	.28	-.26	8.3	2.4
0	400	360	2426	5.10	2459	20	167	.61	-.57	8.6	1.9
		400	2653	5.14	2683	19	153	.51	-.48	8.7	2.0
		440	2872	5.18	2900	18	141	.44	-.41	8.7	2.2
		480	3085	5.21	3111	17	131	.38	-.36	8.8	2.4
		520	3291	5.25	3315	16	123	.34	-.32	8.9	2.5
		560	3491	5.28	3514	15	116	.30	-.29	8.9	2.7

Table 6-21. (Sheet 2)

LEVEL BOMBING TABLES
FOR
UNFINNED BLU-1/B FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CRAB FT/KNOT
0	450	360	2557	5.45	2597	22	177	.65	-.61	9.2	2.1
		400	2794	5.50	2830	20	163	.55	-.52	9.3	2.3
		440	3022	5.53	3056	19	150	.48	-.45	9.3	2.5
		480	3243	5.57	3275	18	140	.42	-.39	9.4	2.6
		520	3458	5.61	3487	17	132	.37	-.35	9.5	2.8
		560	3665	5.65	3693	17	124	.33	-.31	9.5	3.0
0	500	360	2679	5.79	2725	23	188	.70	-.65	9.8	2.3
		400	2924	5.83	2967	22	172	.59	-.55	9.8	2.5
		440	3161	5.87	3200	21	159	.51	-.48	9.9	2.7
		480	3390	5.92	3427	20	149	.45	-.42	10.0	2.9
		520	3611	5.96	3646	19	140	.40	-.38	10.1	3.1
		560	3826	5.99	3858	18	132	.36	-.34	10.1	3.3
0	1000	480	4469	8.76	4579	31	222	.74	-.69	14.8	5.5
		520	4738	8.82	4842	30	210	.66	-.62	14.9	5.8
		560	4996	8.88	5095	29	199	.60	-.57	15.0	6.1

Table 6-21. (Sheet 3)

DIVE BOMBING TABLES
FOR
UNFINNED BLU-1/B FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
5	200	360	1202	2.24	1218	13	83	.55	-.52	3.8
		400	1277	2.16	1293	12	73	.47	-.44	3.6
		440	1345	2.08	1360	12	65	.41	-.39	3.5
		480	1407	2.01	1421	11	58	.36	-.34	3.4
		520	1463	1.94	1477	10	53	.32	-.31	3.3
		560	1516	1.87	1529	10	48	.29	-.28	3.2
5	250	360	1399	2.66	1421	15	94	.60	-.56	4.5
		400	1491	2.58	1512	14	83	.51	-.48	4.4
		440	1577	2.50	1597	13	74	.44	-.42	4.2
		480	1653	2.42	1671	12	67	.39	-.37	4.1
		520	1723	2.35	1741	11	60	.35	-.33	4.0
		560	1789	2.28	1806	11	55	.31	-.30	3.8
5	300	360	1577	3.06	1605	17	105	.64	-.60	5.2
		400	1684	2.97	1711	15	93	.55	-.52	5.0
		440	1783	2.89	1808	14	83	.47	-.45	4.9
		480	1874	2.81	1898	13	75	.42	-.40	4.7
		520	1959	2.73	1981	13	68	.37	-.35	4.6
		560	2037	2.66	2059	12	62	.33	-.32	4.5
5	350	360	1738	3.43	1773	18	115	.69	-.64	5.8
		400	1860	3.34	1892	17	102	.58	-.55	5.6
		440	1972	3.26	2003	15	92	.51	-.48	5.5
		480	2077	3.18	2106	14	83	.45	-.42	5.4
		520	2173	3.10	2201	14	75	.40	-.38	5.2
		560	2264	3.03	2291	13	69	.36	-.34	5.1
5	400	360	1887	3.78	1929	19	125	.73	-.68	6.4
		400	2021	3.69	2061	18	112	.62	-.59	6.2
		440	2146	3.61	2183	17	100	.54	-.51	6.1
		480	2263	3.53	2298	16	91	.47	-.45	6.0
		520	2371	3.45	2405	15	83	.42	-.40	5.8
		560	2471	3.37	2503	14	76	.38	-.36	5.7
5	450	360	2025	4.11	2074	21	135	.77	-.72	6.9
		400	2171	4.03	2217	19	120	.66	-.62	6.8
		440	2308	3.95	2351	18	108	.57	-.54	6.7
		480	2435	3.87	2476	17	98	.50	-.48	6.5
		520	2554	3.79	2594	16	90	.45	-.43	6.4
		560	2666	3.72	2704	15	82	.40	-.39	6.3
5	500	360	2153	4.43	2211	22	144	.81	-.76	7.5
		400	2311	4.35	2364	20	129	.69	-.65	7.3
		440	2458	4.27	2509	19	116	.60	-.57	7.2
		480	2596	4.19	2644	18	106	.53	-.50	7.1
		520	2725	4.12	2770	17	97	.47	-.45	6.9
		560	2846	4.04	2890	16	89	.43	-.41	6.8
5	1000	360	3127	7.15	3283	33	225	1.18	-1.10	12.1
		400	3364	7.09	3509	31	204	1.02	-.95	12.0
		440	3587	7.03	3724	29	187	.89	-.84	11.9
		480	3797	6.98	3927	28	172	.80	-.75	11.8
		520	3996	6.92	4120	27	160	.72	-.68	11.7
		560	4185	6.86	4303	26	149	.65	-.62	11.6
5	1500	480	4605	9.25	4843	36	229	1.04	-.98	15.6
		520	4846	9.21	5073	35	215	.94	-.89	15.5
		560	5074	9.17	5291	34	202	.86	-.81	15.5
10	300	360	1173	2.22	1211	18	81	.82	-.77	3.7
		400	1226	2.09	1262	17	70	.71	-.67	3.5
10	350	360	1321	2.53	1366	19	89	.85	-.80	4.3
		400	1384	2.40	1427	18	78	.74	-.70	4.1
		440	1439	2.28	1481	17	68	.65	-.62	3.9
		480	1487	2.17	1527	16	61	.58	-.55	3.7

Table 6-21. (Sheet 4)

DIVE BOMBING TABLES
FOR
UNFINNED BLU-1/B FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
10	400	360	1459	2.84	1513	20	97	.89	-.84	4.8
		400	1533	2.70	1584	19	85	.77	-.73	4.6
		440	1597	2.57	1646	18	75	.68	-.64	4.3
		480	1653	2.46	1701	17	66	.60	-.57	4.1
		520	1704	2.35	1750	16	60	.54	-.52	4.0
		560	1748	2.25	1793	16	54	.49	-.47	3.8
10	450	360	1590	3.14	1653	21	105	.92	-.87	5.3
		400	1673	2.99	1733	20	92	.80	-.75	5.1
		440	1747	2.86	1804	19	81	.70	-.67	4.8
		480	1812	2.74	1867	18	72	.63	-.60	4.6
		520	1871	2.62	1925	17	65	.56	-.54	4.4
		560	1922	2.52	1974	16	59	.51	-.49	4.2
10	500	360	1714	3.42	1785	23	113	.96	-.90	5.8
		400	1807	3.28	1875	21	99	.83	-.78	5.5
		440	1889	3.14	1954	20	88	.73	-.69	5.3
		480	1963	3.01	2026	19	78	.65	-.62	5.1
		520	2029	2.89	2090	18	70	.58	-.56	4.9
		560	2088	2.78	2147	17	63	.53	-.51	4.7
10	1000	360	2687	5.96	2867	32	185	1.28	-1.20	10.1
		400	2859	5.81	3029	30	165	1.12	-1.05	9.8
		440	3018	5.66	3179	28	148	.99	-.93	9.6
		480	3163	5.52	3317	27	134	.88	-.83	9.3
		520	3297	5.39	3446	26	122	.80	-.76	9.1
		560	3421	5.26	3565	25	112	.72	-.69	8.9
10	1500	400	3605	7.96	3905	38	222	1.38	-1.29	13.4
		440	3816	7.82	4100	36	202	1.23	-1.15	13.2
		480	4013	7.69	4284	35	185	1.10	-1.04	13.0
		520	4196	7.57	4456	33	171	1.00	-.95	12.8
		560	4367	7.44	4617	32	158	.92	-.87	12.6
10	2000	480	4667	9.64	5078	41	232	1.31	-1.23	16.3
		520	4886	9.52	5280	40	216	1.20	-1.13	16.1
		560	5092	9.41	5470	39	201	1.10	-1.04	15.9
15	400	360	1146	2.21	1214	23	79	1.08	-1.01	3.7
15	450	360	1262	2.46	1339	24	86	1.10	-1.04	4.2
		400	1309	2.31	1384	23	74	.97	-.92	3.9
15	500	360	1373	2.71	1461	25	92	1.13	-1.07	4.6
		400	1427	2.55	1512	23	80	.99	-.94	4.3
		440	1473	2.40	1555	22	70	.88	-.84	4.1
15	1000	360	2291	5.00	2500	33	153	1.41	-1.33	8.4
		400	2412	4.79	2611	31	134	1.24	-1.17	8.1
		440	2519	4.60	2710	29	119	1.10	-1.04	7.8
		480	2614	4.42	2799	28	106	.99	-.94	7.5
		520	2700	4.25	2879	27	95	.90	-.86	7.2
		560	2776	4.08	2951	26	86	.82	-.78	6.9
15	1500	360	2975	7.02	3332	40	208	1.67	-1.57	11.9
		400	3151	6.81	3490	38	185	1.47	-1.39	11.5
		440	3310	6.60	3634	36	166	1.32	-1.24	11.1
		480	3454	6.41	3766	34	150	1.19	-1.12	10.8
		520	3586	6.22	3887	33	136	1.08	-1.03	10.5
		560	3706	6.04	3998	31	125	.99	-.94	10.2
15	2000	400	3737	8.65	4239	44	232	1.69	-1.59	14.6
		440	3937	8.45	4416	42	210	1.52	-1.43	14.3
		480	4122	8.25	4581	40	192	1.37	-1.30	13.9
		520	4291	8.07	4735	39	176	1.26	-1.19	13.6
		560	4448	7.89	4877	37	162	1.16	-1.10	13.3

Table 6-21. (Sheet 5)

DIVE BOMBING TABLES
FOR
UNFINNED BLU-1/B FIRE BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KT
15	2500	480	4671	9.98	5298	46	231	1.55	-1.47	16.8
		520	4872	9.80	5476	44	214	1.43	-1.35	16.5
		560	5058	9.62	5642	43	199	1.32	-1.25	16.2
15	3000	560	5574	11.27	6330	48	233	1.47	-1.39	19.0
20	1000	360	1950	4.25	2192	34	128	1.56	-1.47	7.2
		400	2033	4.02	2265	33	111	1.38	-1.30	6.8
		440	2104	3.80	2330	31	97	1.23	-1.17	6.4
		480	2166	3.61	2386	30	86	1.11	-1.06	6.1
		520	2220	3.43	2435	29	77	1.01	-.97	5.8
		560	2267	3.27	2477	28	69	.93	-.89	5.5
20	1500	360	2604	6.12	3005	41	176	1.79	-1.68	10.3
		400	2735	5.86	3120	39	155	1.58	-1.50	9.9
		440	2852	5.62	3222	37	137	1.42	-1.35	9.5
		480	2955	5.39	3314	35	123	1.29	-1.22	9.1
		520	3047	5.17	3396	34	110	1.17	-1.12	8.7
		560	3129	4.97	3470	33	100	1.08	-1.03	8.4
20	2000	360	3137	7.87	3720	46	221	2.00	-1.88	13.3
		400	3310	7.60	3867	44	197	1.78	-1.68	12.8
		440	3466	7.34	4002	42	176	1.60	-1.52	12.4
		480	3607	7.10	4124	40	159	1.46	-1.38	12.0
		520	3734	6.86	4236	39	144	1.33	-1.27	11.6
		560	3849	6.65	4338	37	132	1.23	-1.17	11.2
20	2500	400	3793	9.24	4542	49	236	1.96	-1.85	15.6
		440	3983	8.98	4702	47	213	1.77	-1.68	15.2
		480	4155	8.73	4850	45	194	1.62	-1.54	14.7
		520	4314	8.49	4986	44	178	1.49	-1.42	14.3
		560	4459	8.27	5112	42	163	1.38	-1.31	14.0
20	3000	480	4626	10.29	5514	50	228	1.77	-1.68	17.4
		520	4811	10.06	5670	48	210	1.63	-1.55	17.0
		560	4981	9.84	5815	47	194	1.52	-1.45	16.6
20	3500	560	5436	11.34	6466	51	224	1.65	-1.57	19.1
30	1000	360	1419	3.22	1736	40	94	1.88	-1.79	5.4
30	1500	360	1972	4.79	2478	44	130	2.05	-1.95	8.1
		400	2044	4.50	2535	43	112	1.84	-1.75	7.6
		440	2105	4.23	2585	41	98	1.66	-1.58	7.1
		480	2157	3.99	2627	40	86	1.51	-1.45	6.7
30	2000	360	2447	6.33	3160	49	164	2.21	-2.10	10.7
		400	2552	5.99	3242	47	144	1.99	-1.89	10.1
		440	2642	5.68	3314	45	127	1.80	-1.72	9.6
		480	2720	5.40	3377	44	112	1.65	-1.58	9.1
		520	2789	5.14	3432	42	101	1.52	-1.46	8.7
		560	2849	4.90	3481	41	90	1.40	-1.35	8.3
30	2500	360	2859	7.81	3798	53	197	2.36	-2.24	13.2
		400	2994	7.45	3901	51	174	2.13	-2.03	12.6
		440	3113	7.12	3993	49	155	1.94	-1.85	12.0
		480	3218	6.81	4075	47	139	1.78	-1.70	11.5
		520	3311	6.52	4149	46	125	1.64	-1.58	11.0
		560	3393	6.25	4215	44	113	1.53	-1.47	10.6
30	3000	360	3220	9.26	4401	56	228	2.50	-2.37	15.6
		400	3384	8.88	4522	54	204	2.27	-2.16	15.0
		440	3530	8.53	4632	52	183	2.07	-1.98	14.4
		480	3659	8.20	4732	51	165	1.91	-1.82	13.8
		520	3775	7.90	4822	49	149	1.77	-1.69	13.3
		560	3879	7.61	4904	48	136	1.64	-1.58	12.8

Table 6-21. (Sheet 6)

DIVE BOMBING TABLES
FOR
UNFINNED BLU-1/B FIRE BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KT
30	3500	400	3730	10.28	5115	58	232	2.39	-2.28	17.3
		440	3900	9.92	5240	56	209	2.20	-2.09	16.7
		480	4053	9.58	5355	54	190	2.03	-1.94	16.2
		520	4190	9.26	5460	53	174	1.88	-1.80	15.6
		560	4315	8.96	5556	51	159	1.76	-1.69	15.1
30	4000	440	4232	11.27	5823	59	235	2.31	-2.20	19.0
		480	4405	10.92	5950	57	215	2.14	-2.04	18.4
		520	4563	10.60	6068	56	197	2.00	-1.91	17.9
		560	4707	10.29	6177	54	182	1.87	-1.79	17.4
30	4500	480	4724	12.25	6524	60	239	2.24	-2.14	20.7
		520	4900	11.92	6653	59	221	2.10	-2.01	20.1
		560	5062	11.60	6773	57	204	1.97	-1.89	19.6
30	5000	560	5384	12.89	7348	60	226	2.07	-1.98	21.8
45	2000	360	1618	4.88	2573	57	108	2.56	-2.46	8.2
45	2500	360	1934	6.13	3161	59	129	2.66	-2.56	10.4
		400	2001	5.74	3202	58	112	2.42	-2.33	9.7
		440	2058	5.39	3238	56	99	2.22	-2.14	9.1
45	3000	360	2220	7.39	3732	62	150	2.76	-2.65	12.5
		400	2307	6.95	3784	60	132	2.52	-2.43	11.7
		440	2381	6.56	3830	59	116	2.32	-2.24	11.1
		480	2444	6.20	3870	57	103	2.15	-2.07	10.5
45	3500	360	2479	8.64	4289	64	171	2.84	-2.73	14.6
		400	2585	8.17	4351	62	151	2.61	-2.51	13.8
		440	2677	7.75	4406	61	134	2.41	-2.33	13.1
		480	2756	7.36	4455	59	120	2.24	-2.16	12.4
		520	2825	7.00	4498	58	108	2.09	-2.02	11.8
45	4000	360	2716	9.87	4835	66	191	2.92	-2.81	16.7
		400	2841	9.38	4906	64	169	2.69	-2.60	15.8
		440	2949	8.93	4970	63	152	2.50	-2.41	15.1
		480	3044	8.52	5026	62	136	2.33	-2.25	14.4
		520	3127	8.13	5077	60	123	2.18	-2.10	13.7
		560	3201	7.78	5123	59	112	2.04	-1.98	13.1
45	4500	360	2933	11.10	5371	68	209	2.99	-2.88	18.7
		400	3075	10.59	5450	67	187	2.77	-2.67	17.9
		440	3199	10.12	5521	65	169	2.58	-2.49	17.1
		480	3309	9.68	5586	64	153	2.41	-2.33	16.3
		520	3407	9.28	5644	62	139	2.26	-2.18	15.7
		560	3493	8.90	5697	61	127	2.13	-2.06	15.0
45	5000	360	3132	12.31	5900	70	227	3.05	-2.94	20.8
		400	3290	11.79	5985	68	205	2.84	-2.74	19.9
		440	3430	11.30	6063	67	185	2.65	-2.56	19.1
		480	3555	10.85	6135	66	169	2.48	-2.40	18.3
		520	3666	10.42	6200	64	154	2.34	-2.26	17.6
		560	3765	10.03	6259	63	141	2.20	-2.13	16.9
45	5500	400	3489	12.97	6513	70	221	2.90	-2.80	21.9
		440	3644	12.48	6597	69	202	2.72	-2.62	21.1
		480	3782	12.01	6675	67	184	2.55	-2.47	20.3
		520	3906	11.57	6746	66	169	2.41	-2.33	19.5
		560	4018	11.16	6811	65	156	2.28	-2.20	18.8
45	6000	400	3673	14.15	7035	72	237	2.96	-2.85	23.9
		440	3842	13.64	7124	70	217	2.78	-2.68	23.0
		480	3993	13.16	7207	69	199	2.62	-2.53	22.2
		520	4130	12.72	7284	68	184	2.48	-2.39	21.5
		560	4254	12.30	7355	67	170	2.35	-2.27	20.8

Table 6-22. (Sheet 1)

LEVEL BOMBING TABLES
FOR
FINNED BLU-1 FIRE BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS DRIFT	CROSS CRAB
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KNOT	
0	50	360	896	1.48	897	5	63	.18	-.17	2.5	.0
		400	995	1.48	996	5	56	.15	-.14	2.5	.0
		440	1094	1.48	1095	4	51	.12	-.12	2.5	.0
		480	1193	1.49	1194	4	47	.10	-.10	2.5	.0
		520	1292	1.49	1293	4	43	.09	-.08	2.5	.0
		560	1390	1.49	1391	4	40	.07	-.07	2.5	.0
0	75	360	1130	1.87	1132	7	72	.21	-.20	3.2	.0
		400	1254	1.87	1256	6	65	.17	-.16	3.2	.0
		440	1378	1.87	1380	5	59	.14	-.13	3.2	.0
		480	1502	1.87	1504	5	54	.12	-.11	3.2	.0
		520	1626	1.87	1628	5	50	.10	-.10	3.2	.0
		560	1755	1.88	1756	4	46	.09	-.08	3.2	.0
0	100	360	1330	2.21	1334	8	80	.23	-.22	3.7	.0
		400	1477	2.21	1480	7	72	.19	-.18	3.7	.0
		440	1624	2.21	1627	6	65	.16	-.15	3.7	.0
		480	1770	2.21	1773	6	60	.13	-.12	3.7	.0
		520	1916	2.21	1919	5	55	.11	-.11	3.7	.1
		560	2062	2.22	2064	5	51	.10	-.09	3.7	.1
0	125	360	1505	2.51	1511	9	87	.25	-.24	4.2	.0
		400	1671	2.51	1676	8	78	.21	-.20	4.2	.1
		440	1837	2.51	1841	7	71	.17	-.16	4.2	.1
		480	2003	2.51	2007	6	65	.14	-.14	4.2	.1
		520	2168	2.51	2172	6	60	.12	-.12	4.2	.1
		560	2333	2.51	2336	6	56	.10	-.10	4.2	.1
0	150	360	1664	2.77	1671	9	94	.27	-.26	4.7	.1
		400	1847	2.77	1853	8	85	.22	-.21	4.7	.1
		440	2030	2.78	2036	8	77	.18	-.17	4.7	.1
		480	2213	2.78	2218	7	71	.15	-.15	4.7	.1
		520	2395	2.78	2400	7	65	.13	-.13	4.7	.1
		560	2577	2.78	2581	6	61	.11	-.11	4.7	.1
0	200	360	1946	3.25	1957	11	106	.31	-.29	5.5	.1
		400	2159	3.25	2169	10	95	.25	-.24	5.5	.1
		440	2371	3.25	2380	9	87	.21	-.20	5.5	.1
		480	2583	3.25	2591	8	80	.17	-.17	5.5	.1
		520	2798	3.26	2805	8	74	.15	-.14	5.5	.1
		560	3010	3.26	3016	7	68	.13	-.12	5.5	.1
0	250	360	2192	3.67	2206	12	117	.34	-.32	6.2	.1
		400	2433	3.67	2446	11	105	.27	-.26	6.2	.1
		440	2673	3.67	2685	10	96	.23	-.22	6.2	.1
		480	2913	3.67	2924	9	88	.19	-.18	6.2	.1
		520	3152	3.68	3162	9	81	.16	-.16	6.2	.1
		560	3390	3.68	3399	8	75	.14	-.14	6.2	.2
0	300	360	2415	4.05	2433	13	127	.37	-.35	6.8	.1
		400	2680	4.05	2697	12	114	.30	-.28	6.8	.1
		440	2944	4.05	2960	11	104	.25	-.24	6.8	.1
		480	3208	4.06	3222	10	95	.21	-.20	6.8	.2
		520	3471	4.06	3484	9	88	.18	-.17	6.8	.2
		560	3733	4.06	3745	9	82	.15	-.15	6.9	.2
0	350	360	2620	4.40	2643	14	136	.39	-.37	7.4	.1
		400	2907	4.40	2928	13	122	.32	-.30	7.4	.2
		440	3193	4.40	3212	12	111	.26	-.25	7.4	.2
		480	3479	4.41	3497	11	102	.22	-.21	7.4	.2
		520	3764	4.41	3780	10	94	.19	-.18	7.4	.2
		560	4047	4.41	4062	9	88	.16	-.16	7.4	.2
0	400	360	2810	4.72	2838	15	144	.42	-.39	8.0	.2
		400	3118	4.73	3143	14	130	.34	-.32	8.0	.2
		440	3425	4.73	3448	13	118	.28	-.27	8.0	.2
		480	3731	4.73	3752	12	109	.24	-.23	8.0	.2
		520	4036	4.74	4056	11	100	.20	-.19	8.0	.2
		560	4339	4.74	4357	10	93	.18	-.17	8.0	.3

Table 6-22. (Sheet 2)

LEVEL BOMBING TABLES
FOR
FINNED BLU-1 FIRE BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS DRIFT	CRAB
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KNOT	
0	450	360	2988	5.03	3022	16	152	.44	-.42	8.5	.2
		400	3315	5.03	3346	15	137	.36	-.34	8.5	.2
		440	3641	5.04	3669	13	125	.30	-.28	8.5	.2
		480	3966	5.04	3992	12	115	.25	-.24	8.5	.2
		520	4291	5.05	4314	11	106	.21	-.21	8.5	.3
		560	4612	5.05	4634	11	99	.19	-.18	8.5	.3
0	500	360	3157	5.32	3196	17	160	.46	-.44	9.0	.2
		400	3502	5.32	3538	15	144	.38	-.36	9.0	.2
		440	3846	5.33	3879	14	131	.31	-.30	9.0	.3
		480	4189	5.33	4219	13	120	.26	-.25	9.0	.3
		520	4531	5.34	4558	12	111	.23	-.22	9.0	.3
		560	4870	5.34	4896	11	104	.20	-.19	9.0	.3
0	1000	360	4509	7.67	4618	24	220	.63	-.60	12.9	.4
		400	4998	7.68	5097	22	199	.52	-.49	13.0	.5
		440	5485	7.69	5576	20	182	.43	-.41	13.0	.5
		480	5970	7.70	6053	18	167	.37	-.35	13.0	.6
		520	6453	7.71	6530	17	155	.31	-.30	13.0	.6
		560	6930	7.72	7002	16	144	.27	-.26	13.0	.7
0	1500	480	7318	9.53	7470	22	203	.45	-.43	16.1	.8
		520	7906	9.54	8047	21	189	.38	-.37	16.1	.9
		560	8486	9.56	8618	20	176	.33	-.32	16.1	1.0
0	2000	520	9118	11.10	9335	24	217	.44	-.42	18.7	1.2
		560	9782	11.12	9985	23	202	.39	-.37	18.8	1.3

Table 6-22. (Sheet 3)

DIVE BOMBING TABLES
FOR
FINNED BLU-1 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
5	200	360	1251	2.09	1267	12	76	.47	-.45	3.5
		400	1330	2.00	1345	11	67	.40	-.38	3.4
		440	1400	1.91	1414	10	59	.35	-.33	3.2
		480	1463	1.83	1477	10	53	.30	-.29	3.1
		520	1521	1.76	1534	9	47	.27	-.26	3.0
		560	1572	1.69	1585	9	43	.24	-.23	2.9
5	250	360	1472	2.46	1493	13	85	.50	-.47	4.2
		400	1570	2.36	1589	12	75	.42	-.40	4.0
		440	1658	2.27	1677	11	66	.36	-.35	3.8
		480	1739	2.19	1757	11	59	.32	-.30	3.7
		520	1813	2.10	1830	10	53	.28	-.27	3.6
		560	1880	2.03	1896	10	48	.25	-.24	3.4
5	300	360	1675	2.81	1702	14	94	.52	-.49	4.7
		400	1791	2.70	1816	13	82	.44	-.42	4.6
		440	1898	2.61	1922	12	73	.38	-.36	4.4
		480	1996	2.51	2018	11	65	.33	-.32	4.2
		520	2085	2.42	2107	11	59	.29	-.28	4.1
		560	2167	2.34	2188	10	53	.26	-.25	4.0
5	350	360	1864	3.13	1897	15	102	.54	-.51	5.3
		400	1999	3.02	2029	14	89	.46	-.43	5.1
		440	2122	2.92	2151	13	79	.39	-.37	4.9
		480	2236	2.82	2263	12	71	.34	-.33	4.8
		520	2341	2.73	2367	11	64	.30	-.29	4.6
		560	2438	2.64	2463	11	58	.27	-.26	4.5
5	400	360	2042	3.43	2081	16	110	.56	-.53	5.8
		400	2193	3.32	2230	15	96	.47	-.45	5.6
		440	2333	3.21	2367	14	85	.41	-.39	5.4
		480	2463	3.11	2495	13	76	.35	-.34	5.3
		520	2583	3.01	2614	12	69	.31	-.30	5.1
		560	2694	2.92	2723	11	62	.28	-.27	4.9
5	450	360	2210	3.72	2256	17	117	.58	-.55	6.3
		400	2378	3.60	2420	16	103	.49	-.47	6.1
		440	2534	3.49	2573	14	91	.42	-.40	5.9
		480	2678	3.39	2716	13	82	.36	-.35	5.7
		520	2813	3.29	2849	13	74	.32	-.31	5.6
		560	2938	3.19	2972	12	67	.29	-.28	5.4
5	500	360	2370	3.99	2422	18	124	.60	-.57	6.7
		400	2554	3.87	2602	16	109	.51	-.48	6.5
		440	2724	3.76	2770	15	97	.43	-.41	6.4
		480	2884	3.65	2927	14	87	.37	-.36	6.2
		520	3033	3.55	3073	13	78	.33	-.32	6.0
		560	3171	3.45	3210	12	71	.29	-.28	5.8
5	1000	360	3677	6.25	3810	24	180	.76	-.72	10.6
		400	3992	6.12	4115	22	160	.63	-.60	10.3
		440	4292	6.00	4407	20	143	.54	-.52	10.1
		480	4578	5.87	4686	19	129	.47	-.45	9.9
		520	4849	5.75	4951	18	118	.41	-.39	9.7
		560	5106	5.64	5203	17	107	.36	-.35	9.5
5	1500	360	4685	8.03	4920	29	224	.87	-.83	13.5
		400	5105	7.89	5321	26	200	.73	-.70	13.3
		440	5508	7.76	5708	24	180	.62	-.59	13.1
		480	5894	7.64	6082	23	163	.54	-.52	12.9
		520	6264	7.51	6442	21	149	.47	-.45	12.7
		560	6617	7.39	6785	20	137	.42	-.40	12.5
5	2000	440	6532	9.28	6831	28	211	.69	-.66	15.7
		480	7004	9.15	7284	26	192	.60	-.57	15.4
		520	7459	9.02	7723	24	176	.52	-.50	15.2
		560	7894	8.90	8143	23	162	.46	-.45	15.0

Table 6-22. (Sheet 4)

DIVE BOMBING TABLES
FOR
FINNED BLU-1 FIRE BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS		
								HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KT
5	2500	480	7980	10.49	8362	29	217	.65	-.62	17.7
		520	8509	10.37	8869	27	199	.57	-.55	17.5
		560	9016	10.24	9356	25	184	.51	-.49	17.3
5	3000	520	9455	11.59	9920	29	221	.61	-.59	19.6
		560	10027	11.47	10466	28	204	.54	-.52	19.4
5	3500	560	10952	12.61	11497	30	223	.58	-.56	21.3
10	300	360	1207	2.04	1244	17	74	.71	-.67	3.4
		400	1259	1.92	1294	16	64	.61	-.59	3.2
10	350	360	1367	2.32	1411	18	81	.73	-.69	3.9
		400	1430	2.18	1472	17	70	.63	-.60	3.7
		440	1484	2.06	1525	16	61	.55	-.53	3.5
		480	1531	1.95	1571	15	54	.49	-.47	3.3
10	400	360	1520	2.58	1572	18	87	.74	-.70	4.4
		400	1594	2.43	1644	17	75	.64	-.61	4.1
		440	1658	2.30	1706	16	66	.56	-.54	3.9
		480	1714	2.18	1760	16	58	.50	-.48	3.7
		520	1763	2.07	1808	15	52	.45	-.43	3.5
		560	1806	1.97	1849	14	47	.41	-.39	3.3
10	450	360	1667	2.83	1727	19	93	.76	-.72	4.8
		400	1752	2.68	1809	18	80	.65	-.62	4.5
		440	1826	2.54	1881	17	70	.57	-.55	4.3
		480	1891	2.41	1944	16	62	.51	-.49	4.1
		520	1948	2.29	1999	15	56	.45	-.44	3.9
		560	1998	2.18	2048	15	50	.41	-.40	3.7
10	500	360	1808	3.07	1876	20	99	.77	-.73	5.2
		400	1904	2.91	1968	19	86	.66	-.63	4.9
		440	1988	2.77	2050	17	75	.58	-.56	4.7
		480	2062	2.63	2122	17	66	.51	-.49	4.4
		520	2127	2.51	2185	16	59	.46	-.44	4.2
		560	2184	2.39	2241	15	53	.42	-.40	4.0
10	1000	360	3002	5.15	3164	26	149	.90	-.86	8.7
		400	3200	4.94	3352	24	131	.77	-.73	8.3
		440	3380	4.75	3524	22	115	.67	-.64	8.0
		480	3543	4.57	3681	21	102	.59	-.56	7.7
		520	3691	4.40	3824	20	92	.52	-.50	7.4
		560	3825	4.24	3954	19	83	.47	-.45	7.2
10	1500	360	3955	6.83	4230	30	190	1.00	-.95	11.5
		400	4243	6.61	4500	28	167	.85	-.81	11.1
		440	4508	6.39	4751	26	148	.74	-.71	10.8
		480	4753	6.19	4984	24	133	.65	-.62	10.4
		520	4980	5.99	5201	23	119	.58	-.55	10.1
		560	5187	5.81	5400	22	108	.52	-.50	9.8
10	2000	360	4769	8.29	5172	33	224	1.08	-1.03	14.0
		400	5136	8.05	5512	31	198	.92	-.88	13.6
		440	5479	7.82	5832	29	177	.80	-.77	13.2
		480	5798	7.61	6133	27	159	.70	-.67	12.8
		520	6096	7.40	6416	25	144	.62	-.60	12.5
		560	6371	7.20	6678	24	131	.56	-.54	12.1
10	2500	400	5929	9.35	6435	34	226	.98	-.94	15.8
		440	6342	9.11	6817	31	202	.85	-.82	15.4
		480	6729	8.89	7178	30	182	.75	-.72	15.0
		520	7093	8.67	7520	28	165	.66	-.64	14.6
		560	7430	8.46	7839	26	151	.59	-.57	14.3

Table 6-22. (Sheet 5)

DIVE BOMBING TABLES
FOR
FINNED BLU-1 FIRE BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KT
10	3000	440	7125	10.30	7730	34	225	.90	-.86	17.4
		480	7574	10.06	8147	32	204	.79	-.76	17.0
		520	7999	9.84	8543	30	185	.70	-.67	16.6
		560	8394	9.62	8914	28	170	.63	-.61	16.2
10	3500	480	8354	11.16	9057	34	223	.82	-.79	18.8
		520	8835	10.93	9503	32	204	.73	-.70	18.4
		560	9283	10.71	9921	30	187	.66	-.63	18.1
15	400	360	1171	2.02	1238	22	72	.94	-.89	3.4
15	450	360	1295	2.24	1371	22	77	.95	-.91	3.8
		400	1340	2.09	1414	21	66	.83	-.79	3.5
15	500	360	1415	2.45	1501	23	82	.97	-.92	4.1
		400	1468	2.29	1550	22	71	.84	-.80	3.9
		440	1512	2.14	1592	21	61	.75	-.71	3.6
15	1000	360	2469	4.31	2664	28	126	1.07	-1.01	7.3
		400	2594	4.07	2780	26	109	.92	-.88	6.9
		440	2703	3.86	2882	25	95	.81	-.78	6.5
		480	2798	3.67	2972	24	84	.72	-.70	6.2
		520	2882	3.49	3050	23	74	.65	-.63	5.9
		560	2954	3.32	3119	22	67	.59	-.57	5.6
15	1500	360	3343	5.87	3664	32	162	1.15	-1.09	9.9
		400	3539	5.60	3844	30	141	.99	-.95	9.5
		440	3714	5.35	4005	28	124	.87	-.83	9.0
		480	3869	5.11	4150	26	110	.77	-.74	8.6
		520	4008	4.89	4280	25	98	.69	-.67	8.3
		560	4132	4.69	4395	24	88	.63	-.61	7.9
15	2000	360	4104	7.25	4566	35	193	1.21	-1.16	12.2
		400	4367	6.95	4803	33	169	1.05	-1.00	11.7
		440	4605	6.67	5020	31	149	.92	-.88	11.3
		480	4819	6.41	5218	29	133	.82	-.79	10.8
		520	5013	6.16	5397	28	119	.73	-.71	10.4
		560	5187	5.93	5559	26	107	.66	-.64	10.0
15	2500	360	4786	8.50	5399	38	221	1.27	-1.21	14.3
		400	5111	8.18	5690	35	195	1.10	-1.05	13.8
		440	5408	7.89	5958	33	173	.96	-.92	13.3
		480	5679	7.60	6205	31	154	.85	-.82	12.8
		520	5927	7.33	6432	30	139	.77	-.74	12.4
		560	6149	7.09	6638	28	125	.69	-.67	12.0
15	3000	400	5792	9.32	6523	37	217	1.14	-1.09	15.7
		440	6145	9.01	6838	35	194	1.00	-.96	15.2
		480	6470	8.71	7131	33	174	.89	-.86	14.7
		520	6768	8.43	7403	32	156	.80	-.77	14.2
		560	7038	8.17	7651	30	142	.72	-.70	13.8
15	3500	400	6422	10.39	7314	40	238	1.18	-1.13	17.5
		440	6828	10.06	7673	37	213	1.03	-.99	17.0
		480	7204	9.75	8009	35	191	.92	-.89	16.5
		520	7552	9.46	8324	33	173	.82	-.80	16.0
		560	7867	9.19	8610	32	158	.75	-.72	15.5
20	1000	360	2052	3.67	2282	31	108	1.24	-1.18	6.2
		400	2132	3.44	2355	29	92	1.08	-1.04	5.8
		440	2201	3.22	2417	28	80	.96	-.93	5.4
		480	2258	3.03	2470	27	70	.87	-.83	5.1
		520	2308	2.86	2515	26	62	.79	-.76	4.8
		560	2350	2.71	2554	25	56	.72	-.70	4.6

Table 6-22. (Sheet 6)

DIVE BOMBING TABLES
FOR
FINNED BLU-1 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
20	1500	360	2837	5.11	3209	34	140	1.30	-1.24	8.6
		400	2972	4.82	3329	32	120	1.14	-1.09	8.1
		440	3088	4.56	3433	31	105	1.01	-.97	7.7
		480	3189	4.32	3524	30	92	.90	-.87	7.3
		520	3277	4.09	3604	28	82	.82	-.79	6.9
		560	3352	3.89	3673	28	73	.75	-.73	6.6
20	2000	360	3534	6.41	4061	37	168	1.35	-1.29	10.8
		400	3723	6.08	4226	35	146	1.18	-1.13	10.3
		440	3888	5.77	4372	33	128	1.05	-1.01	9.7
		480	4034	5.49	4502	32	113	.94	-.90	9.3
		520	4162	5.24	4617	30	100	.85	-.82	8.8
		560	4274	5.00	4719	29	90	.78	-.75	8.4
20	2500	360	4166	7.59	4859	40	193	1.40	-1.33	12.8
		400	4407	7.23	5067	37	168	1.22	-1.17	12.2
		440	4621	6.90	5254	35	148	1.08	-1.04	11.6
		480	4811	6.59	5422	34	131	.97	-.93	11.1
		520	4980	6.30	5573	32	117	.88	-.85	10.6
		560	5129	6.04	5706	31	106	.80	-.78	10.2
20	3000	360	4748	8.69	5616	42	216	1.43	-1.37	14.7
		400	5039	8.31	5864	39	189	1.26	-1.21	14.0
		440	5300	7.96	6090	37	167	1.11	-1.07	13.4
		480	5534	7.62	6295	36	149	1.00	-.96	12.9
		520	5745	7.31	6481	34	133	.90	-.87	12.3
		560	5930	7.03	6646	33	120	.82	-.80	11.9
20	3500	360	5289	9.72	6342	44	237	1.47	-1.40	16.4
		400	5628	9.33	6628	41	209	1.29	-1.23	15.7
		440	5935	8.95	6890	39	185	1.14	-1.10	15.1
		480	6212	8.60	7130	37	165	1.02	-.99	14.5
		520	6463	8.27	7350	36	148	.92	-.89	14.0
		560	6685	7.98	7545	34	134	.84	-.82	13.5
30	1000	360	1455	2.83	1766	38	82	1.59	-1.52	4.8
30	1500	360	2069	4.04	2556	40	106	1.62	-1.55	6.8
		400	2137	3.75	2610	39	91	1.44	-1.38	6.3
		440	2192	3.50	2656	38	79	1.29	-1.25	5.9
		480	2239	3.28	2695	37	69	1.17	-1.13	5.5
30	2000	360	2631	5.17	3305	43	129	1.64	-1.58	8.7
		400	2732	4.83	3386	41	110	1.46	-1.41	8.1
		440	2816	4.52	3454	40	96	1.31	-1.27	7.6
		480	2887	4.25	3512	38	84	1.19	-1.15	7.2
		520	2947	4.00	3562	38	74	1.09	-1.06	6.8
		560	2998	3.79	3604	37	66	1.01	-.98	6.4
30	2500	360	3152	6.22	4023	45	149	1.67	-1.60	10.5
		400	3287	5.83	4130	43	128	1.48	-1.43	9.8
		440	3401	5.49	4221	41	112	1.33	-1.29	9.3
		480	3499	5.17	4300	40	98	1.21	-1.17	8.7
		520	3582	4.89	4368	39	87	1.11	-1.07	8.3
		560	3653	4.64	4427	38	78	1.02	-.99	7.8
30	3000	360	3640	7.21	4717	47	167	1.68	-1.62	12.2
		400	3809	6.79	4848	45	145	1.50	-1.44	11.5
		440	3954	6.41	4963	43	127	1.35	-1.30	10.8
		480	4079	6.06	5064	41	112	1.22	-1.18	10.2
		520	4187	5.75	5151	40	99	1.12	-1.09	9.7
		560	4280	5.47	5226	39	89	1.03	-1.00	9.2
30	3500	360	4099	8.15	5390	48	185	1.70	-1.63	13.8
		400	4303	7.70	5546	46	161	1.51	-1.46	13.0
		440	4479	7.29	5684	44	141	1.36	-1.32	12.3
		480	4632	6.92	5806	43	125	1.24	-1.20	11.7
		520	4766	6.57	5913	41	111	1.13	-1.10	11.1
		560	4880	6.27	6005	40	100	1.05	-1.02	10.6

Table 6-22. (Sheet 7)

DIVE BOMBING TABLES
FOR
FINNED BLU-1 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
30	4000	360	4534	9.05	6047	50	201	1.71	-1.65	15.3
		400	4772	8.58	6227	48	175	1.53	-1.47	14.5
		440	4979	8.14	6387	46	154	1.38	-1.33	13.7
		480	5161	7.74	6530	44	137	1.25	-1.21	13.1
		520	5320	7.37	6656	43	122	1.14	-1.11	12.4
		560	5456	7.05	6766	42	110	1.06	-1.03	11.9
30	4500	360	4949	9.92	6689	51	216	1.72	-1.66	16.7
		400	5220	9.42	6892	49	189	1.54	-1.49	15.9
		440	5458	8.96	7074	47	167	1.39	-1.34	15.1
		480	5668	8.54	7237	45	148	1.26	-1.22	14.4
		520	5854	8.14	7384	44	133	1.16	-1.12	13.7
		560	6012	7.81	7509	43	120	1.07	-1.04	13.2
30	5000	360	5344	10.74	7319	52	230	1.73	-1.67	18.1
		400	5649	10.23	7544	50	202	1.55	-1.50	17.3
		440	5918	9.75	7747	48	179	1.40	-1.35	16.5
		480	6156	9.31	7931	46	159	1.27	-1.23	15.7
		520	6368	8.89	8096	45	143	1.17	-1.13	15.0
		560	6547	8.55	8238	44	129	1.08	-1.05	14.4
30	5500	400	6061	11.01	8184	51	214	1.56	-1.51	18.6
		440	6360	10.52	8408	49	190	1.41	-1.36	17.8
		480	6627	10.06	8612	47	170	1.28	-1.24	17.0
		520	6864	9.63	8796	46	153	1.18	-1.14	16.2
		560	7065	9.27	8954	45	139	1.09	-1.06	15.7
30	6000	400	6458	11.77	8815	52	226	1.56	-1.51	19.9
		440	6787	11.26	9059	50	201	1.42	-1.37	19.0
		480	7081	10.78	9282	48	180	1.29	-1.25	18.2
		520	7345	10.34	9484	47	162	1.18	-1.15	17.5
		560	7566	9.98	9657	45	148	1.10	-1.07	16.8
45	2000	360	1683	4.05	2614	53	89	2.06	-1.99	6.8
45	2500	360	2044	4.95	3229	55	102	2.05	-1.98	8.3
		400	2105	4.58	3268	53	88	1.85	-1.79	7.7
		440	2154	4.26	3300	52	76	1.68	-1.64	7.2
45	3000	360	2389	5.80	3835	56	115	2.04	-1.98	9.8
		400	2467	5.39	3884	55	99	1.85	-1.79	9.1
		440	2533	5.02	3926	53	86	1.68	-1.64	8.5
		480	2587	4.70	3961	52	75	1.55	-1.51	7.9
45	3500	360	2718	6.62	4431	57	127	2.03	-1.97	11.2
		400	2816	6.17	4492	56	109	1.84	-1.79	10.4
		440	2897	5.77	4544	54	95	1.68	-1.64	9.7
		480	2966	5.41	4587	53	84	1.55	-1.51	9.1
		520	3023	5.09	4625	52	74	1.43	-1.39	8.6
45	4000	360	3033	7.42	5020	58	138	2.03	-1.97	12.5
		400	3151	6.93	5092	57	120	1.84	-1.79	11.7
		440	3250	6.49	5154	55	104	1.68	-1.64	11.0
		480	3333	6.10	5206	54	92	1.55	-1.51	10.3
		520	3403	5.75	5252	53	82	1.43	-1.40	9.7
		560	3462	5.45	5290	52	73	1.34	-1.31	9.2
45	4500	360	3337	8.19	5602	59	149	2.02	-1.96	13.8
		400	3474	7.67	5685	58	129	1.83	-1.78	12.9
		440	3590	7.20	5757	56	113	1.68	-1.63	12.1
		480	3689	6.78	5819	55	100	1.54	-1.51	11.4
		520	3773	6.40	5872	54	89	1.43	-1.40	10.8
		560	3842	6.08	5917	53	80	1.34	-1.31	10.3
45	5000	360	3630	8.94	6179	60	159	2.01	-1.95	15.1
		400	3787	8.38	6272	58	138	1.83	-1.78	14.2
		440	3921	7.89	6354	57	121	1.68	-1.63	13.3
		480	4035	7.44	6425	56	107	1.54	-1.51	12.6
		520	4133	7.03	6487	55	96	1.43	-1.40	11.9
		560	4214	6.70	6539	54	86	1.34	-1.31	11.3

Table 6-22. (Sheet 8)

DIVE BOMBING TABLES
FOR
FINNED BLU-1 FIRE BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS		
								HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KT
45	5500	360	3913	9.66	6750	61	168	2.00	-1.95	16.3
		400	4090	9.08	6854	59	147	1.83	-1.78	15.3
		440	4242	8.56	6946	58	129	1.67	-1.63	14.4
		480	4372	8.09	7026	56	115	1.54	-1.51	13.6
		520	4484	7.66	7096	55	102	1.43	-1.40	12.9
		560	4576	7.31	7155	54	92	1.34	-1.31	12.3
45	6000	360	4187	10.37	7316	62	177	1.99	-1.94	17.5
		400	4384	9.77	7431	60	155	1.82	-1.77	16.5
		440	4554	9.22	7533	58	137	1.67	-1.63	15.6
		480	4701	8.72	7622	57	122	1.54	-1.51	14.7
		520	4827	8.27	7701	56	109	1.43	-1.40	14.0
		560	4930	7.91	7766	55	98	1.35	-1.32	13.4

Table 6-23. (Sheet 1)

LEVEL BOMBING TABLES
FOR
UNFINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CRAB FT/KNOT
0	50	360	879	1.55	880	6	64	.20	-.19	2.6	.2
		400	972	1.56	974	5	58	.16	-.15	2.6	.2
		440	1065	1.56	1066	5	53	.14	-.13	2.6	.2
		480	1157	1.57	1158	5	48	.11	-.11	2.6	.2
		520	1248	1.57	1249	4	45	.10	-.09	2.7	.3
		560	1338	1.58	1339	4	42	.09	-.08	2.7	.3
0	75	360	1095	1.97	1098	7	74	.24	-.22	3.3	.3
		400	1210	1.97	1212	7	67	.19	-.18	3.3	.3
		440	1324	1.98	1326	6	61	.16	-.15	3.3	.3
		480	1436	1.99	1438	6	56	.14	-.13	3.4	.4
		520	1551	2.00	1553	5	52	.12	-.11	3.4	.4
		560	1656	2.00	1658	5	49	.10	-.10	3.4	.4
0	100	360	1274	2.32	1278	9	83	.27	-.25	3.9	.4
		400	1406	2.33	1410	8	76	.22	-.21	3.9	.4
		440	1537	2.34	1540	7	69	.18	-.17	3.9	.5
		480	1665	2.35	1668	7	64	.16	-.15	4.0	.5
		520	1792	2.36	1795	6	59	.14	-.13	4.0	.5
		560	1918	2.37	1920	6	55	.12	-.11	4.0	.6
0	125	360	1429	2.64	1434	10	92	.30	-.28	4.4	.5
		400	1576	2.65	1581	9	83	.24	-.23	4.5	.5
		440	1720	2.66	1725	8	76	.21	-.20	4.5	.6
		480	1863	2.67	1867	8	70	.18	-.17	4.5	.6
		520	2003	2.68	2007	7	65	.15	-.15	4.5	.7
		560	2142	2.69	2145	7	61	.13	-.13	4.5	.7
0	150	360	1567	2.92	1574	11	100	.33	-.31	4.9	.6
		400	1726	2.94	1733	10	91	.27	-.25	5.0	.6
		440	1883	2.95	1889	9	83	.23	-.21	5.0	.7
		480	2038	2.96	2044	9	77	.19	-.18	5.0	.8
		520	2190	2.98	2195	8	71	.17	-.16	5.0	.8
		560	2340	2.99	2344	8	67	.15	-.14	5.0	.9
0	200	360	1807	3.44	1818	13	114	.38	-.36	5.8	.8
		400	1988	3.45	1998	12	104	.31	-.30	5.8	.9
		440	2166	3.47	2175	11	95	.27	-.25	5.9	.9
		480	2341	3.49	2349	10	88	.23	-.22	5.9	1.0
		520	2512	3.51	2520	10	82	.20	-.19	5.9	1.1
		560	2680	3.52	2688	9	77	.17	-.17	5.9	1.2
0	250	360	2013	3.89	2028	15	127	.43	-.40	6.6	1.0
		400	2213	3.92	2227	13	116	.36	-.34	6.6	1.1
		440	2408	3.94	2421	12	106	.30	-.29	6.6	1.2
		480	2599	3.96	2611	12	98	.26	-.25	6.7	1.3
		520	2786	3.98	2798	11	92	.23	-.22	6.7	1.4
		560	2971	4.00	2982	11	86	.20	-.19	6.8	1.4
0	300	360	2195	4.31	2216	16	139	.48	-.44	7.3	1.2
		400	2411	4.34	2429	15	127	.40	-.37	7.3	1.3
		440	2621	4.36	2638	14	117	.34	-.32	7.4	1.4
		480	2827	4.39	2842	13	108	.29	-.28	7.4	1.5
		520	3027	4.41	3042	12	101	.25	-.24	7.4	1.6
		560	3224	4.43	3238	12	95	.23	-.22	7.5	1.7
0	350	360	2360	4.70	2386	18	150	.52	-.49	7.9	1.4
		400	2589	4.73	2613	16	137	.43	-.41	8.0	1.5
		440	2813	4.76	2834	15	126	.37	-.35	8.0	1.6
		480	3030	4.78	3051	14	117	.32	-.30	8.1	1.8
		520	3243	4.81	3262	14	110	.28	-.27	8.1	1.9
		560	3451	4.84	3468	13	103	.25	-.24	8.2	2.0
0	400	360	2510	5.06	2542	19	161	.56	-.53	8.5	1.6
		400	2752	5.09	2781	18	147	.47	-.44	8.6	1.7
		440	2987	5.12	3014	17	136	.40	-.38	8.6	1.9
		480	3216	5.16	3241	16	126	.35	-.33	8.7	2.0
		520	3439	5.18	3462	15	118	.31	-.29	8.8	2.1
		560	3657	5.21	3678	14	111	.27	-.26	8.8	2.3

Table 6-23. (Sheet 2)

LEVEL BOMBING TABLES
FOR
UNFINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CRAB
0	450	360	2650	5.40	2687	21	171	.60	-.56	9.1	1.8
		400	2902	5.44	2937	19	156	.51	-.48	9.2	1.9
		440	3148	5.47	3180	18	144	.43	-.41	9.2	2.1
		480	3387	5.51	3417	17	134	.38	-.36	9.3	2.2
		520	3619	5.54	3647	16	126	.33	-.31	9.3	2.4
		560	3846	5.57	3872	15	118	.30	-.28	9.4	2.5
0	500	360	2779	5.73	2824	22	181	.64	-.60	9.7	2.0
		400	3042	5.77	3083	20	165	.54	-.51	9.7	2.1
		440	3297	5.81	3335	19	153	.46	-.44	9.8	2.3
		480	3545	5.84	3580	18	142	.40	-.38	9.9	2.5
		520	3785	5.87	3818	17	133	.36	-.34	9.9	2.6
		560	4021	5.91	4052	17	126	.32	-.30	10.0	2.8
0	1000	440	4417	8.55	4529	30	225	.74	-.69	14.4	4.4
		480	4728	8.61	4833	28	210	.65	-.61	14.5	4.7
		520	5027	8.67	5126	27	198	.58	-.55	14.6	5.0
		560	5316	8.72	5409	26	187	.52	-.50	14.7	5.2

Table 6-23. (Sheet 3)

DIVE BOMBING TABLES
FOR
UNFINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
5	200	360	1221	2.23	1237	13	80	.53	-.50	3.8
		400	1297	2.14	1313	12	71	.45	-.43	3.6
		440	1366	2.06	1381	11	63	.39	-.37	3.5
		480	1429	1.99	1442	11	56	.34	-.33	3.4
		520	1485	1.92	1499	10	51	.31	-.29	3.2
		560	1537	1.85	1550	10	46	.28	-.27	3.1
5	250	360	1424	2.64	1445	15	91	.57	-.54	4.5
		400	1517	2.55	1538	13	80	.49	-.46	4.3
		440	1603	2.47	1622	13	71	.42	-.40	4.2
		480	1681	2.39	1700	12	64	.37	-.35	4.0
		520	1753	2.31	1771	11	58	.33	-.31	3.9
		560	1819	2.24	1836	11	53	.30	-.28	3.8
5	300	360	1607	3.02	1634	16	102	.61	-.58	5.1
		400	1716	2.93	1742	15	90	.52	-.49	5.0
		440	1817	2.85	1842	14	80	.45	-.43	4.8
		480	1911	2.76	1934	13	72	.40	-.38	4.7
		520	1996	2.68	2019	12	65	.35	-.34	4.5
		560	2076	2.61	2097	12	59	.32	-.30	4.4
5	350	360	1774	3.39	1808	17	111	.65	-.61	5.7
		400	1899	3.29	1931	16	99	.55	-.52	5.6
		440	2014	3.21	2044	15	88	.48	-.45	5.4
		480	2121	3.12	2149	14	79	.42	-.40	5.3
		520	2220	3.04	2247	13	72	.37	-.36	5.1
		560	2312	2.96	2338	12	66	.34	-.32	5.0
5	400	360	1928	3.73	1969	19	121	.69	-.65	6.3
		400	2067	3.64	2105	17	107	.59	-.55	6.1
		440	2196	3.55	2232	16	96	.51	-.48	6.0
		480	2315	3.46	2349	15	87	.44	-.42	5.8
		520	2427	3.38	2459	14	79	.40	-.38	5.7
		560	2530	3.30	2562	13	72	.36	-.34	5.6
5	450	360	2072	4.05	2121	20	130	.72	-.68	6.8
		400	2224	3.96	2269	18	116	.62	-.58	6.7
		440	2364	3.87	2407	17	104	.53	-.51	6.5
		480	2496	3.79	2536	16	94	.47	-.45	6.4
		520	2619	3.71	2657	15	85	.42	-.40	6.3
		560	2734	3.63	2771	14	78	.37	-.36	6.1
5	500	360	2207	4.37	2263	21	139	.76	-.71	7.4
		400	2370	4.28	2423	19	124	.65	-.61	7.2
		440	2523	4.19	2572	18	111	.56	-.53	7.1
		480	2666	4.11	2712	17	101	.49	-.47	6.9
		520	2799	4.02	2844	16	92	.44	-.42	6.8
		560	2925	3.94	2967	15	84	.39	-.38	6.7
5	1000	360	3241	7.00	3392	31	215	1.08	-1.01	11.8
		400	3493	6.93	3633	29	194	.93	-.87	11.7
		440	3731	6.86	3862	27	177	.81	-.76	11.6
		480	3955	6.79	4080	26	162	.72	-.68	11.5
		520	4168	6.73	4287	25	150	.64	-.61	11.4
		560	4370	6.66	4483	24	139	.58	-.55	11.2
5	1500	440	4568	9.03	4808	35	232	1.03	-.97	15.2
		480	4845	8.98	5072	33	215	.92	-.87	15.2
		520	5108	8.94	5324	32	200	.83	-.78	15.1
		560	5358	8.89	5564	31	187	.75	-.71	15.0
5	2000	560	6116	10.83	6434	37	230	.91	-.87	18.3
10	300	360	1187	2.19	1224	18	78	.79	-.74	3.7
		400	1239	2.07	1275	17	68	.68	-.65	3.5

Table 6-23. (Sheet 4)

DIVE BOMBING TABLES
FOR
UNFINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
10	350	360	1338	2.50	1383	19	86	.82	-.77	4.2
		400	1401	2.37	1444	18	75	.71	-.67	4.0
		440	1455	2.24	1497	17	66	.63	-.59	3.8
		480	1503	2.13	1544	16	58	.56	-.53	3.6
10	400	360	1480	2.80	1533	20	94	.85	-.80	4.7
		400	1553	2.66	1604	19	82	.74	-.70	4.5
		440	1618	2.53	1666	18	72	.65	-.62	4.3
		480	1674	2.41	1721	17	64	.58	-.55	4.1
		520	1724	2.30	1770	16	57	.52	-.50	3.9
		560	1768	2.20	1813	15	51	.47	-.45	3.7
10	450	360	1614	3.09	1675	21	101	.88	-.83	5.2
		400	1698	2.94	1756	20	88	.76	-.72	5.0
		440	1772	2.81	1828	18	78	.67	-.64	4.7
		480	1837	2.68	1891	17	69	.60	-.57	4.5
		520	1895	2.56	1948	17	62	.54	-.51	4.3
		560	1946	2.45	1998	16	56	.49	-.47	4.1
10	500	360	1741	3.37	1812	22	109	.91	-.86	5.7
		400	1835	3.22	1902	20	95	.79	-.75	5.4
		440	1919	3.08	1983	19	84	.69	-.66	5.2
		480	1993	2.94	2054	18	74	.62	-.59	5.0
		520	2058	2.82	2118	17	67	.55	-.53	4.8
		560	2117	2.71	2176	17	60	.50	-.48	4.6
10	1000	360	2760	5.82	2935	31	176	1.19	-1.12	9.8
		400	2938	5.65	3104	29	156	1.03	-.98	9.5
		440	3102	5.50	3259	27	140	.91	-.86	9.3
		480	3252	5.35	3402	26	126	.81	-.77	9.0
		520	3390	5.20	3534	24	114	.73	-.69	8.8
		560	3517	5.06	3656	23	104	.66	-.63	8.5
10	1500	360	3499	7.87	3807	38	233	1.44	-1.35	13.3
		400	3739	7.72	4029	36	209	1.25	-1.18	13.0
		440	3962	7.57	4236	34	189	1.11	-1.05	12.8
		480	4169	7.42	4430	32	173	.99	-.94	12.5
		520	4362	7.28	4612	31	158	.90	-.85	12.3
		560	4542	7.14	4783	29	146	.82	-.78	12.1
10	2000	440	4640	9.41	5053	40	234	1.29	-1.22	15.9
		480	4891	9.28	5284	38	215	1.16	-1.10	15.7
		520	5125	9.15	5502	37	199	1.05	-1.00	15.4
		560	5346	9.02	5708	35	185	.97	-.92	15.2
10	2500	520	5755	10.86	6274	42	237	1.20	-1.14	18.3
		560	6007	10.74	6506	40	221	1.11	-1.05	18.1
15	400	360	1156	2.18	1224	23	76	1.04	-.98	3.7
15	450	360	1274	2.42	1351	23	82	1.07	-1.01	4.1
		400	1321	2.27	1395	22	71	.93	-.89	3.8
15	500	360	1388	2.67	1475	24	88	1.09	-1.03	4.5
		400	1441	2.50	1525	23	76	.95	-.91	4.2
		440	1487	2.35	1569	22	67	.85	-.81	4.0
15	1000	360	2337	4.87	2542	32	146	1.33	-1.25	8.2
		400	2459	4.66	2654	30	127	1.16	-1.10	7.9
		440	2567	4.46	2755	28	112	1.03	-.98	7.5
		480	2663	4.27	2844	27	100	.92	-.88	7.2
		520	2748	4.09	2924	26	89	.84	-.80	6.9
		560	2824	3.93	2996	25	81	.76	-.73	6.6
15	1500	360	3059	6.81	3407	38	197	1.55	-1.46	11.5
		400	3240	6.58	3570	36	174	1.36	-1.28	11.1
		440	3403	6.36	3719	34	155	1.21	-1.14	10.7
		480	3551	6.16	3855	32	140	1.09	-1.03	10.4
		520	3686	5.96	3979	31	127	.98	-.94	10.1
		560	3808	5.77	4093	30	115	.90	-.86	9.7

Table 6-23. (Sheet 5)

DIVE BOMBING TABLES
FOR
UNFINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
15	2000	400	3873	8.33	4359	41	217	1.54	-1.45	14.1
		440	4082	8.11	4546	39	196	1.37	-1.30	13.7
		480	4274	7.90	4719	38	178	1.24	-1.18	13.3
		520	4450	7.70	4879	36	162	1.13	-1.07	13.0
		560	4613	7.51	5028	35	149	1.03	-.99	12.7
15	2500	440	4652	9.74	5281	44	233	1.52	-1.44	16.4
		480	4880	9.54	5483	42	213	1.38	-1.31	16.1
		520	5092	9.34	5673	41	196	1.26	-1.20	15.8
		560	5289	9.15	5850	39	181	1.16	-1.11	15.4
15	3000	520	5644	10.88	6392	45	228	1.39	-1.32	18.4
		560	5869	10.70	6591	44	212	1.28	-1.22	18.1
20	1000	360	1978	4.14	2217	34	122	1.48	-1.40	7.0
		400	2061	3.90	2291	32	106	1.31	-1.24	6.6
		440	2132	3.69	2355	30	92	1.17	-1.11	6.2
		480	2193	3.49	2410	29	81	1.05	-1.01	5.9
		520	2246	3.32	2458	28	72	.96	-.92	5.6
		560	2292	3.15	2500	27	65	.88	-.85	5.3
20	1500	360	2661	5.93	3055	39	167	1.67	-1.58	10.0
		400	2794	5.66	3171	37	146	1.48	-1.40	9.5
		440	2911	5.40	3275	35	129	1.32	-1.26	9.1
		480	3014	5.17	3367	34	115	1.19	-1.14	8.7
		520	3106	4.95	3449	32	103	1.09	-1.04	8.4
		560	3187	4.75	3522	31	93	1.00	-.96	8.0
20	2000	360	3228	7.58	3797	44	208	1.84	-1.74	12.8
		400	3406	7.30	3949	42	184	1.64	-1.55	12.3
		440	3565	7.03	4088	40	164	1.47	-1.40	11.9
		480	3708	6.77	4213	38	147	1.33	-1.27	11.4
		520	3836	6.53	4326	37	133	1.21	-1.16	11.0
		560	3953	6.31	4430	35	121	1.12	-1.07	10.6
20	2500	400	3928	8.85	4656	46	220	1.78	-1.69	14.9
		440	4125	8.57	4823	44	198	1.61	-1.53	14.5
		480	4303	8.31	4976	43	179	1.46	-1.39	14.0
		520	4465	8.06	5118	41	163	1.34	-1.28	13.6
		560	4614	7.82	5247	39	149	1.23	-1.18	13.2
20	3000	440	4612	10.04	5502	48	229	1.73	-1.65	16.9
		480	4822	9.78	5679	46	209	1.58	-1.51	16.5
		520	5014	9.52	5843	45	191	1.45	-1.39	16.1
		560	5191	9.28	5996	43	176	1.34	-1.28	15.7
20	3500	480	5281	11.19	6335	50	238	1.70	-1.61	18.9
		520	5500	10.94	6519	48	219	1.56	-1.49	18.5
		560	5702	10.69	6691	47	203	1.45	-1.39	18.1
30	1000	360	1431	3.14	1746	39	90	1.81	-1.72	5.3
30	1500	360	1999	4.64	2499	43	123	1.95	-1.85	7.8
		400	2070	4.34	2557	42	106	1.74	-1.66	7.3
		440	2130	4.08	2605	40	92	1.57	-1.50	6.9
		480	2181	3.84	2647	39	81	1.43	-1.37	6.5
30	2000	360	2494	6.09	3197	47	155	2.08	-1.98	10.3
		400	2598	5.75	3279	45	135	1.86	-1.78	9.7
		440	2688	5.44	3350	44	118	1.69	-1.61	9.2
		480	2765	5.15	3413	42	105	1.54	-1.48	8.7
		520	2832	4.90	3467	41	93	1.41	-1.36	8.3
		560	2890	4.66	3515	40	84	1.31	-1.26	7.9
30	2500	360	2930	7.49	3852	51	185	2.20	-2.09	12.6
		400	3067	7.12	3956	49	162	1.98	-1.89	12.0
		440	3185	6.78	4049	47	144	1.80	-1.72	11.4
		480	3289	6.46	4132	45	128	1.64	-1.57	10.9
		520	3381	6.17	4205	44	115	1.51	-1.45	10.4
		560	3461	5.90	4270	43	104	1.40	-1.35	10.0

Table 6-23. (Sheet 6)

DIVE BOMBING TABLES
FOR
UNFINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
30	3000	360	3318	8.84	4473	54	213	2.31	-2.20	14.9
		400	3485	8.45	4598	52	189	2.08	-1.99	14.3
		440	3632	8.09	4711	50	169	1.90	-1.82	13.7
		480	3762	7.75	4812	48	151	1.74	-1.67	13.1
		520	3877	7.44	4903	47	136	1.61	-1.54	12.6
		560	3981	7.14	4985	46	124	1.49	-1.44	12.1
30	3500	400	3861	9.75	5212	55	214	2.18	-2.08	16.5
		440	4035	9.37	5341	53	193	2.00	-1.91	15.8
		480	4189	9.02	5459	51	174	1.84	-1.76	15.2
		520	4328	8.69	5566	50	158	1.70	-1.63	14.7
		560	4454	8.38	5664	48	144	1.58	-1.52	14.1
30	4000	400	4203	11.02	5802	58	239	2.27	-2.17	18.6
		440	4401	10.63	5947	56	216	2.08	-1.99	17.9
		480	4579	10.27	6080	54	196	1.92	-1.84	17.3
		520	4740	9.93	6202	53	179	1.79	-1.71	16.8
		560	4885	9.60	6314	51	164	1.67	-1.60	16.2
30	4500	440	4735	11.86	6532	58	238	2.17	-2.07	20.0
		480	4935	11.49	6678	57	217	2.01	-1.92	19.4
		520	5116	11.14	6814	55	199	1.87	-1.79	18.8
		560	5282	10.81	6939	54	183	1.75	-1.68	18.2
30	5000	480	5262	12.69	7259	59	237	2.08	-2.00	21.4
		520	5463	12.34	7406	58	219	1.95	-1.87	20.8
		560	5646	12.00	7542	56	202	1.82	-1.75	20.3
30	5500	520	5784	13.51	7981	60	238	2.02	-1.93	22.8
		560	5984	13.17	8128	58	221	1.89	-1.82	22.2
30	6000	560	6299	14.32	8699	61	239	1.96	-1.88	24.2
45	2000	360	1638	4.70	2585	56	102	2.44	-2.35	7.9
45	2500	360	1965	5.88	3180	58	122	2.52	-2.42	9.9
		400	2031	5.49	3221	57	105	2.29	-2.21	9.3
		440	2086	5.14	3256	55	92	2.09	-2.02	8.7
45	3000	360	2264	7.04	3759	60	141	2.59	-2.49	11.9
		400	2350	6.61	3811	59	123	2.36	-2.28	11.2
		440	2422	6.22	3856	57	108	2.17	-2.09	10.5
		480	2484	5.87	3895	56	96	2.00	-1.94	9.9
45	3500	360	2540	8.20	4325	62	159	2.65	-2.56	13.8
		400	2645	7.73	4387	61	140	2.43	-2.34	13.1
		440	2735	7.31	4442	59	124	2.24	-2.16	12.3
		480	2812	6.92	4490	58	110	2.07	-2.01	11.7
		520	2879	6.57	4532	57	99	1.93	-1.87	11.1
45	4000	360	2795	9.35	4880	64	177	2.71	-2.61	15.8
		400	2919	8.85	4952	63	157	2.49	-2.40	14.9
		440	3026	8.39	5016	61	139	2.30	-2.22	14.2
		480	3119	7.98	5072	60	125	2.14	-2.07	13.5
		520	3200	7.60	5123	58	112	1.99	-1.93	12.8
		560	3271	7.24	5167	57	101	1.87	-1.81	12.2
45	4500	360	3031	10.48	5425	66	194	2.76	-2.67	17.7
		400	3173	9.96	5506	64	173	2.55	-2.46	16.8
		440	3297	9.48	5579	63	154	2.36	-2.28	16.0
		480	3406	9.04	5644	61	139	2.20	-2.13	15.3
		520	3502	8.63	5702	60	125	2.06	-1.99	14.6
		560	3586	8.25	5754	59	114	1.93	-1.87	13.9
45	5000	360	3250	11.59	5963	68	210	2.81	-2.71	19.6
		400	3410	11.06	6052	66	188	2.60	-2.51	18.7
		440	3550	10.56	6132	65	169	2.42	-2.34	17.8
		480	3675	10.10	6205	63	153	2.26	-2.19	17.0
		520	3784	9.67	6271	62	139	2.12	-2.05	16.3
		560	3882	9.27	6330	61	126	1.99	-1.93	15.6

Table 6-23. (Sheet 7)

DIVE BOMBING TABLES
FOR
UNFINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
45	5500	360	3454	12.70	6495	69	226	2.85	-2.75	21.4
		400	3631	12.14	6590	68	203	2.65	-2.56	20.5
		440	3787	11.63	6678	66	184	2.47	-2.39	19.6
		480	3926	11.15	6758	65	167	2.31	-2.24	18.8
		520	4050	10.71	6830	64	152	2.17	-2.10	18.1
		560	4161	10.29	6897	62	139	2.05	-1.98	17.4
45	6000	400	3838	13.22	7122	69	218	2.69	-2.60	22.3
		440	4010	12.69	7216	68	197	2.52	-2.44	21.4
		480	4163	12.20	7303	66	180	2.36	-2.29	20.6
		520	4300	11.74	7382	65	165	2.22	-2.15	19.8
		560	4424	11.31	7454	64	151	2.10	-2.04	19.1

Table 6-24. (Sheet 1)

LEVEL BOMBING TABLES
FOR
FINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CRAB FT/KNOT
0	50	360	912	1.51	913	5	62	.18	-.17	2.5	.0
		400	1013	1.51	1014	5	55	.15	-.14	2.5	.0
		440	1114	1.51	1115	4	50	.12	-.11	2.5	.0
		480	1215	1.51	1216	4	46	.10	-.10	2.5	.0
		520	1315	1.51	1316	4	42	.08	-.08	2.5	.0
		560	1416	1.51	1417	4	39	.07	-.07	2.6	.0
0	75	360	1148	1.90	1151	7	71	.21	-.19	3.2	.0
		400	1275	1.90	1278	6	64	.17	-.16	3.2	.0
		440	1402	1.90	1404	5	58	.14	-.13	3.2	.0
		480	1529	1.90	1531	5	53	.11	-.11	3.2	.0
		520	1656	1.91	1658	5	49	.10	-.09	3.2	.0
		560	1782	1.91	1784	4	45	.08	-.08	3.2	.0
0	100	360	1348	2.24	1352	8	79	.23	-.22	3.8	.0
		400	1497	2.24	1500	7	71	.19	-.18	3.8	.0
		440	1646	2.24	1649	6	64	.15	-.15	3.8	.0
		480	1794	2.24	1797	6	59	.13	-.12	3.8	.0
		520	1943	2.24	1946	5	55	.11	-.10	3.8	.0
		560	2091	2.24	2093	5	51	.09	-.09	3.8	.0
0	125	360	1524	2.53	1529	9	86	.25	-.24	4.3	.0
		400	1692	2.53	1697	8	78	.20	-.19	4.3	.0
		440	1860	2.53	1864	7	70	.17	-.16	4.3	.0
		480	2028	2.53	2032	6	65	.14	-.13	4.3	.1
		520	2196	2.54	2199	6	60	.12	-.11	4.3	.1
		560	2363	2.54	2366	6	55	.10	-.10	4.3	.1
0	150	360	1683	2.80	1690	9	93	.27	-.25	4.7	.0
		400	1869	2.80	1875	8	84	.22	-.21	4.7	.1
		440	2054	2.80	2060	8	76	.18	-.17	4.7	.1
		480	2239	2.80	2244	7	70	.15	-.14	4.7	.1
		520	2424	2.80	2429	7	64	.13	-.12	4.7	.1
		560	2608	2.80	2613	6	60	.11	-.11	4.7	.1
0	200	360	1965	3.27	1975	11	105	.30	-.29	5.5	.1
		400	2182	3.27	2191	10	94	.25	-.23	5.5	.1
		440	2398	3.28	2406	9	86	.20	-.19	5.5	.1
		480	2614	3.28	2621	8	79	.17	-.16	5.5	.1
		520	2829	3.28	2836	8	73	.15	-.14	5.5	.1
		560	3044	3.28	3050	7	68	.13	-.12	5.5	.1
0	250	360	2213	3.69	2227	12	116	.33	-.32	6.2	.1
		400	2457	3.69	2469	11	104	.27	-.26	6.2	.1
		440	2700	3.69	2712	10	95	.22	-.21	6.2	.1
		480	2943	3.70	2953	9	87	.19	-.18	6.2	.1
		520	3185	3.70	3195	8	80	.16	-.15	6.2	.1
		560	3426	3.70	3435	8	75	.14	-.13	6.2	.1
0	300	360	2437	4.07	2456	13	125	.36	-.34	6.9	.1
		400	2705	4.07	2722	12	113	.29	-.28	6.9	.1
		440	2973	4.07	2988	11	103	.24	-.23	6.9	.1
		480	3240	4.08	3254	10	94	.20	-.20	6.9	.1
		520	3506	4.08	3519	9	87	.17	-.17	6.9	.1
		560	3771	4.08	3783	9	81	.15	-.15	6.9	.2
0	350	360	2643	4.42	2666	14	134	.39	-.37	7.5	.1
		400	2933	4.42	2954	13	121	.32	-.30	7.5	.1
		440	3223	4.42	3242	12	110	.26	-.25	7.5	.1
		480	3512	4.43	3530	11	101	.22	-.21	7.5	.2
		520	3801	4.43	3817	10	94	.19	-.18	7.5	.2
		560	4088	4.43	4103	9	87	.16	-.16	7.5	.2
0	400	360	2834	4.74	2862	15	143	.41	-.39	8.0	.1
		400	3147	4.75	3172	14	129	.33	-.32	8.0	.1
		440	3455	4.75	3478	13	117	.28	-.27	8.0	.2
		480	3766	4.75	3787	12	108	.23	-.22	8.0	.2
		520	4075	4.76	4094	11	100	.20	-.19	8.0	.2
		560	4382	4.76	4400	10	93	.17	-.17	8.0	.2

Table 6-24. (Sheet 2)

LEVEL BOMBING TABLES
FOR
FINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CROSS CRAB FT/KNOT
0	450	360	3014	5.05	3047	16	151	.43	-.41	8.5	.2
		400	3344	5.05	3374	15	136	.35	-.34	8.5	.2
		440	3674	5.06	3702	13	124	.29	-.28	8.5	.2
		480	4003	5.06	4028	12	114	.25	-.24	8.5	.2
		520	4331	5.06	4355	11	105	.21	-.20	8.5	.2
		560	4657	5.07	4679	11	98	.18	-.18	8.6	.2
0	500	360	3183	5.34	3222	17	158	.46	-.43	9.0	.2
		400	3532	5.34	3567	15	143	.37	-.35	9.0	.2
		440	3880	5.35	3912	14	130	.31	-.29	9.0	.2
		480	4227	5.35	4257	13	119	.26	-.25	9.0	.2
		520	4574	5.36	4601	12	110	.22	-.21	9.0	.2
		560	4917	5.36	4943	11	103	.19	-.18	9.0	.3
0	1000	360	4544	7.68	4653	23	218	.62	-.59	13.0	.3
		400	5040	7.69	5138	21	198	.51	-.49	13.0	.4
		440	5533	7.70	5623	20	180	.43	-.41	13.0	.4
		480	6025	7.71	6107	18	166	.36	-.35	13.0	.5
		520	6515	7.72	6591	17	153	.31	-.30	13.0	.5
		560	7000	7.72	7071	16	143	.27	-.26	13.0	.5
0	1500	440	6788	9.52	6952	24	219	.51	-.49	16.1	.6
		480	7389	9.53	7539	22	201	.44	-.42	16.1	.7
		520	7986	9.54	8126	21	187	.38	-.36	16.1	.7
		560	8577	9.55	8707	19	174	.33	-.32	16.1	.8
0	2000	520	9216	11.08	9430	24	215	.43	-.42	18.7	1.0
		560	9893	11.10	10093	22	200	.38	-.36	18.7	1.1

Table 6-24. (Sheet 3)

DIVE BOMBING TABLES
FOR
FINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
5	200	360	1262	2.10	1277	12	75	.47	-.44	3.5
		400	1340	2.01	1355	11	65	.40	-.38	3.4
		440	1411	1.93	1425	10	58	.34	-.33	3.2
		480	1475	1.85	1488	10	52	.30	-.29	3.1
		520	1532	1.77	1545	9	46	.27	-.26	3.0
		560	1584	1.70	1597	9	42	.24	-.23	2.9
5	250	360	1483	2.48	1504	13	84	.49	-.47	4.2
		400	1580	2.37	1600	12	74	.42	-.40	4.0
		440	1671	2.28	1690	11	65	.36	-.34	3.9
		480	1752	2.20	1770	11	58	.31	-.30	3.7
		520	1826	2.11	1843	10	52	.28	-.27	3.6
		560	1893	2.04	1910	10	47	.25	-.24	3.4
5	300	360	1688	2.82	1714	14	93	.52	-.49	4.8
		400	1805	2.72	1830	13	81	.43	-.41	4.6
		440	1912	2.62	1935	12	72	.37	-.36	4.4
		480	2010	2.52	2032	11	64	.33	-.31	4.3
		520	2100	2.43	2121	11	57	.29	-.28	4.1
		560	2182	2.35	2203	10	52	.26	-.25	4.0
5	350	360	1878	3.14	1910	15	101	.54	-.51	5.3
		400	2013	3.03	2043	14	88	.45	-.43	5.1
		440	2137	2.93	2166	13	78	.39	-.37	4.9
		480	2252	2.83	2279	12	70	.34	-.32	4.8
		520	2357	2.74	2383	11	63	.30	-.29	4.6
		560	2454	2.65	2479	11	57	.27	-.26	4.5
5	400	360	2057	3.44	2095	16	108	.56	-.53	5.8
		400	2209	3.33	2245	15	95	.47	-.45	5.6
		440	2350	3.22	2383	14	84	.40	-.38	5.4
		480	2480	3.12	2512	13	75	.35	-.33	5.3
		520	2601	3.02	2631	12	68	.31	-.30	5.1
		560	2712	2.93	2741	11	61	.27	-.26	4.9
5	450	360	2226	3.73	2271	17	115	.58	-.55	6.3
		400	2394	3.62	2436	15	101	.49	-.46	6.1
		440	2551	3.51	2590	14	90	.41	-.40	5.9
		480	2697	3.40	2734	13	80	.36	-.35	5.7
		520	2832	3.30	2867	12	73	.32	-.30	5.6
		560	2957	3.20	2991	12	66	.28	-.27	5.4
5	500	360	2386	4.00	2438	18	122	.60	-.57	6.8
		400	2571	3.89	2619	16	107	.50	-.48	6.6
		440	2743	3.77	2788	15	95	.43	-.41	6.4
		480	2903	3.66	2946	14	86	.37	-.36	6.2
		520	3053	3.56	3094	13	77	.33	-.31	6.0
		560	3192	3.46	3231	12	70	.29	-.28	5.8
5	1000	360	3701	6.26	3833	24	179	.75	-.71	10.6
		400	4018	6.13	4141	22	159	.63	-.60	10.3
		440	4321	6.00	4435	20	142	.53	-.51	10.1
		480	4608	5.87	4715	19	128	.46	-.44	9.9
		520	4882	5.75	4983	18	116	.40	-.39	9.7
		560	5141	5.64	5237	16	106	.36	-.34	9.5
5	1500	360	4717	8.03	4950	28	222	.86	-.82	13.5
		400	5140	7.89	5355	26	198	.72	-.69	13.3
		440	5547	7.76	5746	24	178	.61	-.59	13.1
		480	5937	7.63	6123	22	161	.53	-.51	12.9
		520	6310	7.50	6486	21	147	.46	-.45	12.7
		560	6667	7.38	6834	20	135	.41	-.40	12.5
5	2000	440	6582	9.26	6879	27	209	.68	-.65	15.6
		480	7059	9.13	7337	26	190	.59	-.56	15.4
		520	7520	9.00	7781	24	174	.51	-.50	15.2
		560	7959	8.87	8206	23	160	.46	-.44	15.0

Table 6-24. (Sheet 4)

DIVE BOMBING TABLES
FOR
FINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
5	2500	480	8047	10.46	8426	28	215	.64	-.61	17.7
		520	8583	10.33	8940	26	197	.56	-.54	17.4
		560	9096	10.21	9433	25	182	.50	-.48	17.2
5	3000	520	9543	11.55	10003	29	218	.60	-.58	19.5
		560	10121	11.43	10557	27	202	.53	-.51	19.3
5	3500	560	11062	12.55	11602	29	220	.56	-.54	21.2
10	300	360	1214	2.05	1251	17	73	.71	-.67	3.5
		400	1266	1.92	1301	16	63	.61	-.58	3.2
10	350	360	1375	2.32	1419	18	79	.72	-.68	3.9
		400	1438	2.19	1480	17	68	.62	-.59	3.7
		440	1493	2.06	1533	16	60	.55	-.52	3.5
		480	1539	1.95	1579	15	53	.49	-.47	3.3
10	400	360	1529	2.59	1581	18	85	.74	-.70	4.4
		400	1603	2.44	1652	17	74	.64	-.60	4.1
		440	1667	2.31	1715	16	65	.56	-.53	3.9
		480	1723	2.19	1769	15	57	.49	-.47	3.7
		520	1772	2.08	1816	15	51	.44	-.43	3.5
		560	1814	1.97	1858	14	46	.40	-.39	3.3
10	450	360	1677	2.84	1736	19	92	.75	-.71	4.8
		400	1762	2.68	1818	18	79	.65	-.62	4.5
		440	1836	2.54	1890	17	69	.57	-.54	4.3
		480	1901	2.41	1953	16	61	.50	-.48	4.1
		520	1957	2.30	2008	15	54	.45	-.43	3.9
		560	2007	2.19	2057	15	49	.41	-.39	3.7
10	500	360	1818	3.08	1886	20	97	.77	-.73	5.2
		400	1914	2.92	1979	18	84	.66	-.63	4.9
		440	1998	2.77	2060	17	74	.58	-.55	4.7
		480	2072	2.64	2132	16	65	.51	-.49	4.4
		520	2137	2.51	2195	16	58	.46	-.44	4.2
		560	2195	2.39	2251	15	52	.41	-.40	4.0
10	1000	360	3018	5.15	3180	25	148	.89	-.85	8.7
		400	3217	4.95	3369	23	129	.76	-.73	8.3
		440	3398	4.75	3542	22	114	.66	-.63	8.0
		480	3561	4.57	3699	21	101	.58	-.56	7.7
		520	3710	4.40	3843	20	90	.52	-.50	7.4
		560	3845	4.24	3972	19	82	.47	-.45	7.2
10	1500	360	3977	6.83	4251	30	188	.99	-.94	11.5
		400	4267	6.60	4523	27	165	.84	-.81	11.1
		440	4534	6.39	4775	26	147	.73	-.70	10.8
		480	4780	6.18	5010	24	131	.64	-.62	10.4
		520	5007	5.98	5227	23	118	.57	-.55	10.1
		560	5216	5.80	5427	21	107	.51	-.49	9.8
10	2000	360	4798	8.28	5198	33	222	1.07	-1.02	14.0
		400	5168	8.04	5541	31	196	.91	-.87	13.6
		440	5512	7.81	5864	29	175	.79	-.76	13.2
		480	5834	7.59	6167	27	157	.69	-.66	12.8
		520	6133	7.37	6451	25	142	.61	-.59	12.4
		560	6410	7.18	6714	24	129	.55	-.53	12.1
10	2500	400	5968	9.33	6470	33	224	.97	-.92	15.7
		440	6383	9.09	6855	31	200	.84	-.80	15.3
		480	6773	8.86	7220	29	180	.74	-.71	15.0
		520	7140	8.64	7565	28	163	.65	-.63	14.6
		560	7479	8.43	7886	26	149	.58	-.57	14.2

Table 6-24. (Sheet 5)

DIVE BOMBING TABLES
FOR
FINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
10	3000	440	7175	10.26	7777	33	223	.88	-.85	17.3
		480	7628	10.03	8197	31	201	.77	-.74	16.9
		520	8057	9.80	8597	30	183	.69	-.66	16.5
		560	8454	9.58	8970	28	167	.62	-.60	16.2
10	3500	480	8417	11.11	9116	33	220	.81	-.78	18.8
		520	8903	10.88	9567	32	201	.72	-.69	18.4
		560	9354	10.66	9988	30	184	.64	-.62	18.0
15	400	360	1177	2.03	1243	22	71	.94	-.89	3.4
15	450	360	1301	2.24	1377	22	76	.95	-.90	3.8
		400	1347	2.09	1420	21	65	.83	-.79	3.5
15	500	360	1422	2.45	1507	23	81	.96	-.91	4.1
		400	1474	2.29	1557	22	69	.84	-.80	3.9
		440	1518	2.14	1598	21	60	.74	-.71	3.6
15	1000	360	2481	4.31	2675	28	124	1.06	-1.01	7.3
		400	2606	4.08	2791	26	107	.92	-.87	6.9
		440	2715	3.86	2893	25	93	.81	-.77	6.5
		480	2810	3.66	2983	23	82	.72	-.69	6.2
		520	2893	3.48	3061	22	73	.65	-.62	5.9
		560	2966	3.32	3130	22	65	.59	-.57	5.6
15	1500	360	3360	5.87	3679	32	160	1.14	-1.08	9.9
		400	3556	5.60	3860	29	139	.98	-.94	9.4
		440	3731	5.34	4021	28	122	.86	-.83	9.0
		480	3887	5.10	4166	26	108	.77	-.74	8.6
		520	4026	4.88	4296	25	96	.69	-.66	8.2
		560	4149	4.68	4412	24	87	.62	-.60	7.9
15	2000	360	4125	7.24	4585	35	191	1.20	-1.14	12.2
		400	4389	6.94	4824	32	167	1.04	-.99	11.7
		440	4628	6.66	5041	31	148	.91	-.87	11.2
		480	4843	6.39	5239	29	131	.81	-.78	10.8
		520	5037	6.15	5419	27	117	.72	-.70	10.4
		560	5211	5.92	5581	26	106	.66	-.63	10.0
15	2500	360	4812	8.48	5423	37	219	1.25	-1.20	14.3
		400	5139	8.17	5715	35	192	1.08	-1.04	13.8
		440	5437	7.86	5985	33	170	.95	-.91	13.3
		480	5709	7.58	6233	31	152	.84	-.81	12.8
		520	5957	7.31	6461	30	137	.76	-.73	12.3
		560	6181	7.06	6667	28	124	.69	-.66	11.9
15	3000	400	5826	9.29	6553	37	215	1.13	-1.08	15.7
		440	6181	8.98	6870	35	191	.99	-.95	15.2
		480	6507	8.68	7165	33	171	.88	-.84	14.6
		520	6807	8.39	7438	31	154	.79	-.76	14.2
		560	7077	8.13	7687	30	140	.71	-.69	13.7
15	3500	400	6462	10.35	7349	39	236	1.16	-1.11	17.5
		440	6871	10.02	7711	37	210	1.02	-.98	16.9
		480	7249	9.71	8050	35	189	.91	-.87	16.4
		520	7598	9.41	8366	33	171	.81	-.78	15.9
		560	7914	9.14	8653	32	155	.74	-.71	15.4
20	1000	360	2060	3.68	2290	31	106	1.23	-1.17	6.2
		400	2141	3.44	2363	29	91	1.08	-1.03	5.8
		440	2209	3.22	2425	28	79	.96	-.92	5.4
		480	2266	3.03	2477	27	69	.86	-.83	5.1
		520	2315	2.86	2522	26	61	.78	-.76	4.8
		560	2357	2.71	2561	25	54	.72	-.69	4.6

Table 6-24. (Sheet 6)

DIVE BOMBING TABLES
FOR
FINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
20	1500	360	2849	5.11	3220	34	138	1.29	-1.23	8.6
		400	2984	4.82	3340	32	119	1.13	-1.08	8.1
		440	3100	4.55	3444	31	104	1.00	-.96	7.7
		480	3201	4.31	3535	29	91	.90	-.86	7.3
		520	3288	4.09	3614	28	81	.81	-.79	6.9
		560	3364	3.89	3683	27	72	.74	-.72	6.6
20	2000	360	3550	6.40	4075	37	166	1.34	-1.28	10.8
		400	3739	6.07	4240	35	144	1.17	-1.12	10.2
		440	3905	5.76	4387	33	126	1.04	-1.00	9.7
		480	4050	5.48	4517	32	111	.93	-.90	9.3
		520	4178	5.22	4632	30	99	.84	-.81	8.8
		560	4290	4.99	4733	29	89	.77	-.74	8.4
20	2500	360	4186	7.57	4876	39	191	1.38	-1.32	12.8
		400	4428	7.22	5085	37	166	1.21	-1.16	12.2
		440	4642	6.88	5272	35	146	1.07	-1.03	11.6
		480	4832	6.57	5441	34	130	.96	-.93	11.1
		520	5001	6.28	5592	32	116	.87	-.84	10.6
		560	5150	6.02	5725	31	104	.79	-.77	10.2
20	3000	360	4772	8.67	5637	42	214	1.42	-1.36	14.6
		400	5064	8.29	5886	39	187	1.24	-1.19	14.0
		440	5326	7.93	6113	37	165	1.10	-1.06	13.4
		480	5561	7.60	6318	35	147	.99	-.95	12.8
		520	5771	7.28	6504	34	131	.89	-.86	12.3
		560	5956	7.00	6669	33	119	.81	-.79	11.8
20	3500	360	5318	9.69	6366	44	234	1.45	-1.39	16.4
		400	5659	9.29	6654	41	206	1.27	-1.22	15.7
		440	5966	8.92	6917	39	183	1.13	-1.09	15.1
		480	6244	8.56	7158	37	163	1.01	-.97	14.5
		520	6495	8.23	7378	35	146	.91	-.88	13.9
		560	6717	7.94	7574	34	132	.83	-.81	13.4
30	1000	360	1460	2.83	1770	38	80	1.58	-1.51	4.8
30	1500	360	2076	4.04	2562	40	105	1.61	-1.54	6.8
		400	2143	3.75	2616	39	90	1.43	-1.37	6.3
		440	2199	3.50	2662	38	77	1.29	-1.24	5.9
		480	2245	3.27	2700	37	68	1.17	-1.13	5.5
30	2000	360	2641	5.16	3313	43	127	1.63	-1.57	8.7
		400	2741	4.82	3393	41	109	1.45	-1.40	8.1
		440	2825	4.51	3461	40	94	1.30	-1.26	7.6
		480	2896	4.24	3519	38	83	1.18	-1.14	7.2
		520	2956	3.99	3569	37	73	1.08	-1.05	6.7
		560	3006	3.78	3611	37	65	1.00	-.97	6.4
30	2500	360	3165	6.20	4033	45	147	1.65	-1.59	10.5
		400	3299	5.82	4139	43	127	1.47	-1.42	9.8
		440	3413	5.47	4231	41	110	1.32	-1.28	9.2
		480	3510	5.16	4309	40	97	1.20	-1.16	8.7
		520	3594	4.87	4378	39	86	1.10	-1.06	8.2
		560	3665	4.62	4436	38	76	1.01	-.98	7.8
30	3000	360	3655	7.19	4729	46	165	1.67	-1.61	12.1
		400	3824	6.77	4860	44	143	1.49	-1.43	11.4
		440	3969	6.39	4975	43	125	1.34	-1.29	10.8
		480	4094	6.04	5075	41	110	1.21	-1.17	10.2
		520	4201	5.72	5163	40	98	1.11	-1.08	9.7
		560	4293	5.44	5238	39	88	1.02	-1.00	9.2
30	3500	360	4118	8.13	5404	48	182	1.68	-1.62	13.7
		400	4321	7.68	5561	46	159	1.50	-1.45	13.0
		440	4497	7.26	5698	44	139	1.35	-1.31	12.3
		480	4650	6.89	5820	43	123	1.23	-1.19	11.6
		520	4783	6.54	5927	41	109	1.12	-1.09	11.0
		560	4897	6.24	6019	40	98	1.04	-1.01	10.5

Table 6-24. (Sheet 7)

DIVE BOMBING TABLES
FOR
FINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
30	4000	360	4556	9.02	6063	50	198	1.70	-1.63	15.2
		400	4793	8.54	6243	47	173	1.51	-1.46	14.4
		440	5001	8.10	6404	45	152	1.36	-1.32	13.7
		480	5182	7.70	6546	44	135	1.24	-1.20	13.0
		520	5341	7.33	6673	42	120	1.13	-1.10	12.4
		560	5477	7.01	6782	41	108	1.05	-1.02	11.8
30	4500	360	4974	9.87	6707	51	213	1.70	-1.64	16.7
		400	5245	9.38	6911	49	187	1.52	-1.47	15.8
		440	5483	8.92	7093	47	165	1.37	-1.33	15.0
		480	5693	8.49	7257	45	146	1.25	-1.21	14.3
		520	5878	8.10	7403	44	131	1.14	-1.11	13.7
		560	6036	7.76	7529	42	118	1.06	-1.03	13.1
30	5000	360	5373	10.70	7340	52	227	1.71	-1.65	18.1
		400	5677	10.18	7565	50	200	1.53	-1.48	17.2
		440	5947	9.70	7769	48	177	1.38	-1.34	16.4
		480	6185	9.25	7953	46	157	1.26	-1.22	15.6
		520	6396	8.84	8119	45	141	1.15	-1.12	14.9
		560	6576	8.49	8261	43	127	1.07	-1.04	14.3
30	5500	400	6093	10.95	8208	51	212	1.54	-1.49	18.5
		440	6393	10.46	8433	49	188	1.39	-1.35	17.6
		480	6660	9.99	8637	47	168	1.27	-1.23	16.9
		520	6897	9.56	8821	46	150	1.16	-1.13	16.1
		560	7098	9.21	8979	44	136	1.08	-1.05	15.5
30	6000	400	6494	11.71	8842	52	223	1.55	-1.50	19.8
		440	6824	11.19	9087	50	199	1.40	-1.36	18.9
		480	7119	10.71	9310	48	178	1.27	-1.24	18.1
		520	7381	10.27	9512	46	160	1.17	-1.14	17.3
		560	7603	9.91	9686	45	145	1.09	-1.06	16.7
45	2000	360	1688	4.05	2617	53	87	2.05	-1.98	6.8
45	2500	360	2052	4.93	3234	55	100	2.04	-1.97	8.3
		400	2112	4.57	3273	53	86	1.84	-1.78	7.7
		440	2161	4.24	3305	52	75	1.68	-1.63	7.2
45	3000	360	2398	5.78	3840	56	113	2.03	-1.97	9.8
		400	2476	5.37	3890	54	97	1.84	-1.78	9.1
		440	2541	5.01	3931	53	84	1.67	-1.63	8.4
		480	2594	4.68	3966	52	74	1.54	-1.50	7.9
45	3500	360	2729	6.60	4438	57	125	2.02	-1.96	11.1
		400	2826	6.15	4498	56	108	1.83	-1.78	10.4
		440	2907	5.74	4550	54	94	1.67	-1.63	9.7
		480	2975	5.38	4593	53	82	1.53	-1.50	9.1
		520	3032	5.06	4631	52	73	1.42	-1.39	8.5
45	4000	360	3046	7.39	5028	58	136	2.01	-1.95	12.5
		400	3163	6.90	5100	57	118	1.83	-1.77	11.6
		440	3261	6.46	5161	55	103	1.67	-1.62	10.9
		480	3344	6.07	5213	54	90	1.53	-1.50	10.2
		520	3414	5.72	5259	53	80	1.42	-1.39	9.7
		560	3472	5.42	5296	52	72	1.33	-1.30	9.1
45	4500	360	3352	8.15	5611	59	147	2.00	-1.95	13.8
		400	3489	7.63	5694	57	127	1.82	-1.77	12.9
		440	3604	7.16	5765	56	111	1.66	-1.62	12.1
		480	3702	6.74	5827	55	98	1.53	-1.50	11.4
		520	3785	6.36	5880	54	87	1.42	-1.39	10.7
		560	3854	6.04	5925	53	78	1.33	-1.30	10.2
45	5000	360	3647	8.89	6189	60	156	2.00	-1.94	15.0
		400	3803	8.34	6282	58	136	1.81	-1.77	14.1
		440	3936	7.85	6364	57	120	1.66	-1.62	13.2
		480	4050	7.40	6434	56	106	1.53	-1.49	12.5
		520	4147	6.99	6496	54	94	1.42	-1.39	11.8
		560	4227	6.66	6548	54	84	1.33	-1.30	11.2

Table 6-24. (Sheet 8)

DIVE BOMBING TABLES
FOR
FINNED BLU-27 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
45	5500	360	3932	9.61	6761	61	166	1.99	-1.93	16.2
		400	4109	9.04	6865	59	145	1.81	-1.76	15.3
		440	4260	8.51	6957	58	127	1.66	-1.62	14.4
		480	4389	8.04	7037	56	113	1.53	-1.49	13.6
		520	4500	7.61	7107	55	101	1.42	-1.39	12.8
		560	4592	7.26	7165	54	91	1.33	-1.30	12.3
45	6000	360	4208	10.31	7328	62	175	1.98	-1.92	17.4
		400	4405	9.71	7443	60	153	1.80	-1.76	16.4
		440	4574	9.16	7545	58	135	1.66	-1.61	15.5
		480	4720	8.66	7634	57	120	1.53	-1.49	14.6
		520	4845	8.22	7712	56	107	1.42	-1.39	13.9
		560	4948	7.86	7777	55	97	1.33	-1.30	13.3

Table 6-25. (Sheet 1)

LEVEL BOMBING TABLES
FOR
UNFINNED BLU-32 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CROSS CRAB FT/KNOT
0	50	360	839	1.52	841	6	67	.21	-.20	2.6	.2
		400	927	1.52	928	6	60	.18	-.17	2.6	.3
		440	1014	1.53	1015	5	55	.15	-.14	2.6	.3
		480	1100	1.54	1101	5	51	.12	-.12	2.6	.3
		520	1185	1.54	1186	4	47	.11	-.10	2.6	.3
		560	1269	1.55	1270	4	44	.09	-.09	2.6	.3
0	75	360	1048	1.94	1050	8	78	.25	-.24	3.3	.4
		400	1155	1.95	1158	7	70	.21	-.20	3.3	.4
		440	1262	1.96	1264	6	64	.17	-.17	3.3	.4
		480	1367	1.97	1369	6	59	.15	-.14	3.3	.5
		520	1470	1.98	1472	6	55	.13	-.12	3.3	.5
		560	1572	1.98	1574	5	51	.11	-.11	3.3	.5
0	100	360	1219	2.30	1223	9	87	.29	-.27	3.9	.5
		400	1343	2.31	1346	8	79	.24	-.23	3.9	.5
		440	1464	2.32	1468	8	73	.20	-.19	3.9	.6
		480	1584	2.34	1587	7	67	.17	-.16	3.9	.6
		520	1701	2.35	1704	7	62	.15	-.14	4.0	.7
		560	1817	2.36	1819	6	58	.13	-.13	4.0	.7
0	125	360	1368	2.62	1374	10	96	.32	-.30	4.4	.6
		400	1503	2.64	1508	9	87	.27	-.25	4.4	.7
		440	1638	2.65	1642	9	80	.23	-.21	4.5	.8
		480	1769	2.67	1774	8	74	.19	-.19	4.5	.8
		520	1898	2.68	1902	8	69	.17	-.16	4.5	.9
		560	2025	2.70	2029	7	65	.15	-.14	4.5	.9
0	150	360	1497	2.91	1504	11	104	.36	-.33	4.9	.8
		400	1645	2.93	1652	11	95	.30	-.28	5.0	.8
		440	1790	2.95	1797	10	87	.25	-.24	5.0	.9
		480	1932	2.97	1938	9	81	.22	-.21	5.0	1.0
		520	2071	2.98	2077	9	75	.19	-.18	5.0	1.1
		560	2207	3.00	2212	8	71	.17	-.16	5.1	1.1
0	200	360	1722	3.44	1734	14	120	.42	-.39	5.8	1.0
		400	1890	3.47	1900	13	109	.35	-.33	5.8	1.1
		440	2053	3.49	2063	12	100	.30	-.28	5.9	1.2
		480	2212	3.51	2221	11	93	.26	-.24	5.9	1.3
		520	2368	3.53	2376	11	87	.23	-.21	6.0	1.4
		560	2519	3.55	2527	10	82	.20	-.19	6.0	1.5
0	250	360	1915	3.91	1931	16	134	.48	-.45	6.6	1.3
		400	2098	3.94	2112	15	122	.40	-.37	6.7	1.4
		440	2275	3.97	2289	14	113	.34	-.32	6.7	1.5
		480	2448	4.00	2461	13	105	.30	-.28	6.7	1.6
		520	2617	4.02	2629	12	98	.26	-.25	6.8	1.8
		560	2781	4.05	2792	12	92	.23	-.22	6.8	1.9
0	300	360	2084	4.34	2105	17	147	.53	-.50	7.3	1.5
		400	2279	4.37	2299	16	134	.45	-.42	7.4	1.7
		440	2470	4.41	2488	15	124	.38	-.36	7.4	1.8
		480	2655	4.44	2671	15	115	.33	-.32	7.5	2.0
		520	2834	4.47	2850	14	108	.29	-.28	7.5	2.1
		560	3008	4.50	3023	13	102	.26	-.25	7.6	2.2
0	350	360	2235	4.74	2262	19	159	.58	-.55	8.0	1.8
		400	2443	4.78	2467	18	145	.49	-.46	8.1	2.0
		440	2643	4.82	2666	17	134	.42	-.40	8.1	2.1
		480	2838	4.85	2859	16	125	.37	-.35	8.2	2.3
		520	3027	4.88	3047	15	117	.33	-.31	8.2	2.4
		560	3209	4.91	3228	15	111	.29	-.28	8.3	2.6
0	400	360	2372	5.12	2406	21	170	.64	-.59	8.6	2.0
		400	2590	5.16	2621	20	156	.54	-.50	8.7	2.2
		440	2800	5.20	2829	19	145	.46	-.44	8.8	2.4
		480	3004	5.24	3030	18	135	.41	-.38	8.8	2.6
		520	3200	5.27	3225	17	127	.36	-.34	8.9	2.7
		560	3391	5.31	3414	16	120	.32	-.31	9.0	2.9

Table 6-25. (Sheet 2)

LEVEL BOMBING TABLES
FOR
UNFINNED BLU-32 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CROSS CRAB FT/KNOT
0	450	360	2499	5.47	2539	22	181	.69	-.64	9.2	2.3
		400	2726	5.52	2763	21	167	.58	-.54	9.3	2.5
		440	2944	5.56	2979	20	154	.50	-.47	9.4	2.7
		480	3155	5.60	3187	19	144	.44	-.42	9.5	2.9
		520	3359	5.64	3389	18	135	.39	-.37	9.5	3.1
		560	3556	5.68	3585	18	128	.35	-.33	9.6	3.2
0	500	360	2616	5.81	2663	24	192	.73	-.68	9.8	2.5
		400	2851	5.86	2895	23	176	.62	-.58	9.9	2.8
		440	3077	5.91	3118	21	164	.54	-.51	10.0	3.0
		480	3295	5.95	3333	21	153	.48	-.45	10.0	3.2
		520	3505	5.99	3541	20	144	.42	-.40	10.1	3.4
		560	3708	6.03	3742	19	136	.38	-.36	10.2	3.6
0	1000	480	4317	8.83	4432	33	230	.79	-.74	14.9	5.9
		520	4570	8.90	4678	32	217	.72	-.67	15.0	6.2
		560	4811	8.96	4914	31	207	.65	-.62	15.1	6.5

Table 6-25. (Sheet 3)

DIVE BOMBING TABLES
FOR
UNFINNED BLU-32 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
5	200	360	1187	2.25	1204	14	85	.57	-.53	3.8
		400	1262	2.17	1277	13	75	.48	-.46	3.7
		440	1329	2.09	1344	12	67	.42	-.40	3.5
		480	1391	2.02	1405	11	60	.37	-.35	3.4
		520	1446	1.95	1460	11	54	.33	-.31	3.3
		560	1498	1.89	1511	10	49	.30	-.28	3.2
5	250	360	1381	2.67	1403	15	97	.61	-.58	4.5
		400	1472	2.59	1493	14	85	.52	-.49	4.4
		440	1555	2.51	1575	13	76	.45	-.43	4.2
		480	1632	2.43	1651	12	69	.40	-.38	4.1
		520	1702	2.36	1720	12	62	.36	-.34	4.0
		560	1766	2.29	1784	11	57	.32	-.31	3.9
5	300	360	1555	3.07	1584	17	108	.66	-.62	5.2
		400	1661	2.99	1688	16	95	.57	-.53	5.0
		440	1758	2.91	1784	15	85	.49	-.46	4.9
		480	1848	2.83	1873	14	77	.43	-.41	4.8
		520	1932	2.76	1955	13	70	.39	-.37	4.7
		560	2009	2.68	2031	12	64	.35	-.33	4.5
5	350	360	1713	3.44	1748	18	118	.71	-.66	5.8
		400	1832	3.36	1866	17	105	.61	-.57	5.7
		440	1943	3.28	1974	16	94	.53	-.50	5.5
		480	2046	3.20	2076	15	85	.46	-.44	5.4
		520	2141	3.13	2170	14	78	.41	-.39	5.3
		560	2230	3.06	2257	13	71	.37	-.36	5.2
5	400	360	1858	3.80	1901	20	129	.76	-.71	6.4
		400	1990	3.72	2030	18	115	.65	-.61	6.3
		440	2113	3.64	2150	17	103	.56	-.53	6.1
		480	2227	3.56	2262	16	93	.49	-.47	6.0
		520	2333	3.49	2367	15	85	.44	-.42	5.9
		560	2433	3.42	2466	14	78	.40	-.38	5.8
5	450	360	1992	4.14	2043	21	139	.80	-.75	7.0
		400	2136	4.06	2183	20	124	.68	-.64	6.9
		440	2269	3.98	2314	18	112	.60	-.56	6.7
		480	2394	3.91	2436	17	101	.53	-.50	6.6
		520	2511	3.83	2551	16	93	.47	-.45	6.5
		560	2620	3.76	2659	16	85	.42	-.40	6.4
5	500	360	2117	4.47	2176	23	148	.84	-.79	7.5
		400	2271	4.39	2326	21	133	.72	-.68	7.4
		440	2415	4.31	2466	20	120	.63	-.59	7.3
		480	2550	4.24	2598	18	109	.56	-.53	7.2
		520	2676	4.17	2722	17	100	.50	-.47	7.0
		560	2794	4.10	2839	17	92	.45	-.43	6.9
5	1000	360	3055	7.23	3215	34	232	1.24	-1.15	12.2
		400	3283	7.18	3432	32	211	1.08	-1.01	12.1
		440	3498	7.12	3638	31	194	.95	-.89	12.0
		480	3700	7.08	3833	29	179	.85	-.80	11.9
		520	3891	7.03	4017	28	166	.77	-.72	11.9
		560	4072	6.98	4193	27	155	.70	-.66	11.8
5	1500	480	4462	9.39	4707	38	239	1.12	-1.05	15.8
		520	4690	9.36	4924	37	224	1.02	-.96	15.8
		560	4907	9.33	5131	36	211	.93	-.88	15.8
10	300	360	1163	2.23	1201	18	83	.84	-.79	3.8
		400	1215	2.11	1252	17	73	.73	-.69	3.6
10	350	360	1308	2.55	1354	20	92	.87	-.82	4.3
		400	1371	2.42	1415	18	80	.76	-.72	4.1
		440	1426	2.30	1468	17	70	.67	-.63	3.9
		480	1474	2.19	1515	16	63	.60	-.57	3.7

Table 6-25. (Sheet 4)

DIVE BOMBING TABLES
FOR
UNFINNED BLU-32 FIRE BOMB

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS		
								HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KT
10	400	360	1444	2.86	1499	21	100	.91	-.86	4.8
		400	1517	2.72	1569	19	87	.79	-.75	4.6
		440	1581	2.60	1631	18	77	.70	-.66	4.4
		480	1638	2.48	1686	17	69	.62	-.59	4.2
		520	1688	2.37	1735	17	62	.56	-.53	4.0
		560	1733	2.28	1779	16	56	.51	-.49	3.8
10	450	360	1573	3.16	1636	22	108	.95	-.89	5.3
		400	1655	3.02	1715	20	95	.82	-.78	5.1
		440	1729	2.89	1786	19	84	.72	-.69	4.9
		480	1794	2.77	1849	18	75	.65	-.61	4.7
		520	1852	2.66	1906	17	67	.58	-.56	4.5
		560	1904	2.55	1956	17	61	.53	-.51	4.3
10	500	360	1694	3.45	1766	23	117	.99	-.93	5.8
		400	1786	3.31	1855	21	102	.86	-.81	5.6
		440	1868	3.18	1934	20	90	.75	-.71	5.4
		480	1942	3.05	2005	19	81	.67	-.64	5.2
		520	2008	2.93	2069	18	73	.60	-.58	5.0
		560	2067	2.82	2126	17	66	.55	-.53	4.8
10	1000	360	2639	6.04	2823	33	191	1.34	-1.26	10.2
		400	2808	5.90	2981	31	170	1.17	-1.10	10.0
		440	2963	5.76	3127	29	153	1.04	-.98	9.7
		480	3106	5.62	3263	28	139	.93	-.88	9.5
		520	3237	5.49	3388	27	127	.84	-.80	9.3
		560	3359	5.37	3505	26	117	.77	-.73	9.1
10	1500	400	3521	8.10	3827	40	231	1.46	-1.37	13.7
		440	3725	7.97	4016	38	210	1.30	-1.23	13.5
		480	3915	7.85	4193	36	193	1.18	-1.11	13.2
		520	4093	7.73	4359	35	179	1.07	-1.01	13.0
		560	4258	7.62	4515	33	166	.98	-.93	12.9
10	2000	520	4741	9.74	5146	42	226	1.29	-1.21	16.4
		560	4938	9.64	5328	41	212	1.19	-1.12	16.3
15	400	360	1137	2.22	1206	23	82	1.10	-1.03	3.8
15	450	360	1252	2.48	1330	24	88	1.13	-1.06	4.2
		400	1299	2.33	1375	23	76	.99	-.94	3.9
15	500	360	1361	2.74	1450	25	95	1.16	-1.09	4.6
		400	1415	2.57	1501	24	82	1.02	-.96	4.3
		440	1462	2.43	1545	23	72	.90	-.86	4.1
15	1000	360	2260	5.08	2472	34	158	1.47	-1.38	8.6
		400	2380	4.87	2582	32	139	1.29	-1.22	8.2
		440	2487	4.68	2680	30	123	1.15	-1.09	7.9
		480	2582	4.50	2769	28	110	1.03	-.98	7.6
		520	2667	4.34	2848	27	99	.94	-.89	7.3
		560	2743	4.18	2920	26	90	.86	-.82	7.1
15	1500	360	2921	7.15	3284	41	215	1.75	-1.64	12.1
		400	3093	6.94	3437	39	192	1.55	-1.46	11.7
		440	3249	6.75	3578	37	173	1.39	-1.31	11.4
		480	3391	6.56	3708	35	157	1.25	-1.19	11.1
		520	3521	6.38	3827	34	143	1.14	-1.08	10.8
		560	3640	6.21	3937	33	131	1.05	-1.00	10.5
15	2000	440	3847	8.64	4335	44	220	1.61	-1.52	14.6
		480	4026	8.46	4495	42	201	1.47	-1.38	14.3
		520	4191	8.28	4644	40	185	1.34	-1.27	14.0
		560	4344	8.11	4783	39	171	1.24	-1.18	13.7

Table 6-25. (Sheet 5)

DIVE BOMBING TABLES
FOR
UNFINNED BLU-32 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT FANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
15	2500	520	4736	10.07	5356	46	226	1.53	-1.45	17.0
		560	4917	9.91	5516	45	210	1.42	-1.35	16.7
20	1000	360	1930	4.31	2173	35	132	1.61	-1.52	7.3
		400	2013	4.08	2247	33	115	1.42	-1.35	6.9
		440	2085	3.87	2312	32	101	1.27	-1.21	6.5
		480	2147	3.68	2368	30	90	1.15	-1.10	6.2
		520	2201	3.50	2418	29	80	1.05	-1.00	5.9
		560	2249	3.34	2461	28	72	.96	-.92	5.6
20	1500	360	2566	6.24	2972	42	183	1.87	-1.75	10.5
		400	2696	5.99	3085	40	161	1.66	-1.56	10.1
		440	2812	5.74	3187	38	143	1.49	-1.41	9.7
		480	2915	5.52	3278	36	128	1.35	-1.28	9.3
		520	3007	5.31	3360	35	116	1.23	-1.17	9.0
		560	3089	5.11	3434	33	105	1.13	-1.08	8.6
20	2000	360	3078	8.04	3670	48	230	2.10	-1.97	13.6
		400	3248	7.78	3815	45	205	1.87	-1.77	13.1
		440	3402	7.53	3946	43	184	1.69	-1.60	12.7
		480	3541	7.29	4067	42	167	1.54	-1.46	12.3
		520	3667	7.07	4177	40	152	1.41	-1.34	11.9
		560	3781	6.85	4278	39	139	1.30	-1.24	11.6
20	2500	440	3892	9.22	4626	49	224	1.88	-1.78	15.6
		480	4062	8.98	4769	47	204	1.72	-1.63	15.2
		520	4217	8.76	4902	45	188	1.59	-1.51	14.8
		560	4359	8.54	5025	44	173	1.47	-1.40	14.4
20	3000	520	4683	10.38	5562	50	222	1.75	-1.66	17.5
		560	4850	10.17	5702	49	206	1.63	-1.55	17.2
20	3500	560	5272	11.73	6328	53	238	1.79	-1.69	19.8
30	1000	360	1409	3.26	1728	40	97	1.93	-1.83	5.5
30	1500	360	1953	4.89	2462	45	134	2.12	-2.01	8.2
		400	2025	4.59	2520	43	117	1.90	-1.81	7.8
		440	2087	4.33	2570	42	102	1.72	-1.64	7.3
		480	2140	4.09	2613	40	90	1.57	-1.50	6.9
30	2000	360	2414	6.47	3135	50	171	2.30	-2.18	10.9
		400	2520	6.14	3217	48	150	2.07	-1.97	10.4
		440	2610	5.84	3289	46	132	1.88	-1.79	9.9
		480	2690	5.56	3352	44	118	1.72	-1.65	9.4
		520	2759	5.30	3408	43	106	1.59	-1.52	8.9
		560	2820	5.06	3457	42	95	1.47	-1.41	8.5
30	2500	360	2811	8.02	3762	54	206	2.47	-2.34	13.5
		400	2946	7.66	3864	52	182	2.24	-2.13	12.9
		440	3065	7.33	3955	50	163	2.04	-1.94	12.4
		480	3170	7.03	4037	48	146	1.87	-1.79	11.9
		520	3263	6.74	4111	47	132	1.73	-1.66	11.4
		560	3346	6.48	4177	46	120	1.61	-1.54	10.9
30	3000	360	3156	9.51	4354	58	239	2.63	-2.49	16.1
		400	3318	9.15	4473	56	213	2.39	-2.27	15.4
		440	3463	8.80	4582	54	192	2.19	-2.08	14.9
		480	3592	8.48	4680	52	174	2.02	-1.93	14.3
		520	3708	8.18	4769	51	158	1.87	-1.79	13.8
		560	3812	7.90	4851	49	145	1.75	-1.67	13.3
30	3500	440	3813	10.25	5176	57	221	2.33	-2.22	17.3
		480	3964	9.92	5288	56	201	2.16	-2.0E	16.7
		520	4101	9.61	5391	54	184	2.01	-1.92	16.2
		560	4225	9.31	5486	53	170	1.88	-1.80	15.7

Table 6-25. (Sheet 6)

DIVE BOMBING TABLES
FOR
UNFINNED BLU-32 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
30	4000	480	4295	11.33	5869	59	228	2.28	-2.18	19.1
		520	4450	11.01	5984	58	210	2.13	-2.04	18.6
		560	4592	10.71	6090	56	194	2.00	-1.91	18.1
30	4500	520	4763	12.39	6553	61	235	2.25	-2.15	20.9
		560	4922	12.08	6669	59	218	2.12	-2.03	20.4
45	2000	360	1604	4.99	2564	57	112	2.64	-2.53	8.4
45	2500	360	1912	6.30	3147	60	135	2.76	-2.65	10.6
		400	1981	5.90	3190	58	118	2.51	-2.42	10.0
		440	2039	5.55	3226	57	103	2.31	-2.22	9.4
45	3000	360	2189	7.61	3713	63	157	2.87	-2.75	12.8
		400	2277	7.17	3766	61	138	2.63	-2.53	12.1
		440	2352	6.78	3812	59	122	2.42	-2.33	11.4
		480	2416	6.42	3852	58	109	2.24	-2.17	10.8
45	3500	360	2438	8.91	4265	65	179	2.97	-2.85	15.0
		400	2545	8.45	4327	63	159	2.73	-2.63	14.3
		440	2637	8.02	4382	62	141	2.53	-2.44	13.5
		480	2717	7.63	4431	60	127	2.35	-2.27	12.9
		520	2788	7.28	4474	59	114	2.20	-2.12	12.3
45	4000	360	2664	10.21	4806	67	200	3.06	-2.94	17.2
		400	2788	9.72	4876	66	178	2.83	-2.72	16.4
		440	2897	9.27	4939	64	160	2.63	-2.53	15.7
		480	2992	8.86	4995	63	145	2.45	-2.36	15.0
		520	3077	8.48	5047	62	131	2.30	-2.22	14.3
		560	3152	8.12	5093	60	119	2.16	-2.09	13.7
45	4500	360	2868	11.49	5336	69	220	3.14	-3.02	19.4
		400	3009	10.99	5414	68	197	2.91	-2.81	18.5
		440	3134	10.52	5484	66	179	2.72	-2.62	17.8
		480	3244	10.09	5548	65	162	2.55	-2.46	17.0
		520	3343	9.69	5606	64	148	2.39	-2.31	16.4
		560	3430	9.31	5658	63	135	2.26	-2.18	15.7
45	5000	360	3055	12.76	5859	71	238	3.21	-3.09	21.5
		400	3212	12.25	5943	70	216	2.99	-2.88	20.7
		440	3351	11.77	6019	68	196	2.80	-2.70	19.9
		480	3475	11.32	6089	67	179	2.63	-2.54	19.1
		520	3587	10.90	6153	66	164	2.48	-2.40	18.4
		560	3687	10.51	6212	65	151	2.35	-2.27	17.7
45	5500	400	3397	13.49	6464	72	233	3.06	-2.95	22.8
		440	3550	13.00	6546	70	214	2.88	-2.78	21.9
		480	3687	12.55	6622	69	196	2.71	-2.62	21.2
		520	3811	12.12	6692	68	181	2.56	-2.48	20.5
		560	3923	11.71	6756	67	167	2.43	-2.35	19.8
45	6000	440	3734	14.23	7067	72	230	2.95	-2.84	24.0
		480	3883	13.77	7147	71	212	2.79	-2.69	23.2
		520	4019	13.33	7222	70	196	2.64	-2.55	22.5
		560	4142	12.91	7291	69	182	2.51	-2.43	21.8

Table 6-26. (Sheet 1)

LEVEL BOMBING TABLES
FOR
FINNED BLU-32 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CROSS CRAB FT/KNOT
0	50	360	807	1.34	809	6	70	.20	-.19	2.3	.0
		400	897	1.34	898	5	63	.17	-.16	2.3	.0
		440	986	1.34	987	5	57	.14	-.13	2.3	.0
		480	1075	1.34	1076	4	52	.11	-.11	2.3	.0
		520	1164	1.34	1165	4	48	.10	-.09	2.3	.0
		560	1253	1.34	1254	4	45	.08	-.08	2.3	.0
0	75	360	1038	1.73	1041	7	78	.23	-.22	2.9	.0
		400	1153	1.73	1155	6	70	.19	-.18	2.9	.0
		440	1267	1.73	1270	6	64	.15	-.15	2.9	.0
		480	1382	1.73	1384	5	59	.13	-.12	2.9	.0
		520	1496	1.73	1498	5	54	.11	-.10	2.9	.0
		560	1610	1.73	1612	4	50	.09	-.09	2.9	.0
0	100	360	1234	2.06	1238	8	86	.25	-.24	3.5	.0
		400	1370	2.06	1374	7	78	.20	-.19	3.5	.0
		440	1506	2.06	1509	6	70	.17	-.16	3.5	.1
		480	1642	2.06	1645	6	65	.14	-.14	3.5	.1
		520	1777	2.06	1780	5	60	.12	-.12	3.5	.1
		560	1912	2.06	1915	5	55	.10	-.10	3.5	.1
0	125	360	1407	2.35	1413	9	93	.27	-.26	4.0	.1
		400	1562	2.35	1567	8	84	.22	-.21	4.0	.1
		440	1717	2.35	1722	7	76	.18	-.17	4.0	.1
		480	1871	2.35	1876	7	70	.15	-.15	4.0	.1
		520	2026	2.35	2029	6	65	.13	-.13	4.0	.1
		560	2180	2.35	2183	6	60	.11	-.11	4.0	.1
0	150	360	1564	2.61	1571	9	100	.29	-.28	4.4	.1
		400	1736	2.61	1743	9	90	.24	-.22	4.4	.1
		440	1908	2.62	1914	8	82	.19	-.19	4.4	.1
		480	2079	2.62	2085	7	75	.16	-.16	4.4	.1
		520	2250	2.62	2255	7	69	.14	-.13	4.4	.1
		560	2421	2.62	2426	6	64	.12	-.12	4.4	.1
0	200	360	1843	3.08	1853	11	112	.33	-.31	5.2	.1
		400	2045	3.09	2055	10	101	.26	-.25	5.2	.1
		440	2247	3.09	2256	9	92	.22	-.21	5.2	.1
		480	2448	3.09	2457	8	84	.18	-.18	5.2	.1
		520	2649	3.09	2657	8	78	.16	-.15	5.2	.1
		560	2850	3.09	2857	7	72	.14	-.13	5.2	.1
0	250	360	2088	3.50	2103	12	123	.36	-.34	5.9	.1
		400	2317	3.50	2330	11	110	.29	-.27	5.9	.1
		440	2545	3.51	2558	10	101	.24	-.23	5.9	.1
		480	2773	3.51	2785	9	92	.20	-.19	5.9	.1
		520	3001	3.51	3011	9	85	.17	-.17	5.9	.2
		560	3227	3.51	3237	8	79	.15	-.14	5.9	.2
0	300	360	2310	3.88	2329	13	132	.38	-.36	6.5	.1
		400	2563	3.88	2580	12	119	.31	-.30	6.6	.1
		440	2815	3.88	2831	11	109	.26	-.25	6.6	.2
		480	3067	3.89	3081	10	100	.22	-.21	6.6	.2
		520	3318	3.89	3331	9	92	.19	-.18	6.6	.2
		560	3568	3.89	3581	9	86	.16	-.16	6.6	.2
0	350	360	2513	4.23	2538	14	141	.41	-.39	7.1	.2
		400	2789	4.23	2810	13	127	.33	-.32	7.1	.2
		440	3063	4.23	3083	12	116	.28	-.26	7.1	.2
		480	3336	4.24	3354	11	107	.23	-.22	7.2	.2
		520	3609	4.24	3626	10	99	.20	-.19	7.2	.2
		560	3880	4.24	3896	9	92	.17	-.17	7.2	.2
0	400	360	2703	4.55	2732	15	150	.43	-.41	7.7	.2
		400	2998	4.56	3025	14	135	.35	-.34	7.7	.2
		440	3293	4.56	3317	13	123	.29	-.28	7.7	.2
		480	3587	4.56	3609	12	113	.25	-.24	7.7	.2
		520	3879	4.57	3900	11	105	.21	-.20	7.7	.2
		560	4171	4.57	4190	10	97	.18	-.18	7.7	.3

Table 6-26. (Sheet 2)

LEVEL BOMBING TABLES
FOR
FINNED BLU-32 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CROSS CRAB FT/KNOT
0	450	360	2881	4.86	2916	16	158	.46	-.43	8.2	.2
		400	3195	4.86	3227	15	142	.37	-.35	8.2	.2
		440	3509	4.87	3538	13	130	.31	-.29	8.2	.2
		480	3821	4.87	3848	12	119	.26	-.25	8.2	.3
		520	4133	4.87	4158	11	110	.22	-.21	8.2	.3
		560	4443	4.88	4466	11	102	.19	-.19	8.2	.3
0	500	360	3049	5.15	3089	17	165	.48	-.45	8.7	.2
		400	3381	5.15	3418	15	149	.39	-.37	8.7	.2
		440	3713	5.16	3746	14	136	.32	-.31	8.7	.3
		480	4043	5.16	4074	13	125	.27	-.26	8.7	.3
		520	4372	5.17	4401	12	115	.23	-.22	8.7	.3
		560	4700	5.17	4727	11	107	.20	-.20	8.7	.3
0	1000	400	4873	7.50	4975	22	204	.53	-.50	12.7	.5
		440	5348	7.51	5441	20	186	.44	-.42	12.7	.5
		480	5820	7.52	5905	18	172	.38	-.36	12.7	.6
		520	6290	7.53	6369	17	159	.32	-.31	12.7	.6
		560	6757	7.54	6830	16	148	.28	-.27	12.7	.7
0	1500	480	7167	9.34	7323	22	207	.45	-.44	15.8	.8
		520	7742	9.36	7886	21	192	.39	-.38	15.8	.9
		560	8313	9.37	8447	20	179	.34	-.33	15.8	1.0
0	2000	560	9612	10.92	9817	23	206	.39	-.38	18.4	1.3

Table 6-26. (Sheet 3)

DIVE BOMBING TABLES
FOR
FINNED BLU-32 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
5	200	360	1194	2.00	1210	13	84	.50	-.47	3.4
		400	1269	1.92	1285	12	74	.42	-.40	3.2
		440	1338	1.84	1353	11	66	.36	-.35	3.1
		480	1400	1.76	1415	10	59	.32	-.30	3.0
		520	1457	1.69	1470	10	53	.28	-.27	2.9
		560	1508	1.63	1521	9	48	.25	-.24	2.7
5	250	360	1409	2.37	1431	14	93	.52	-.49	4.0
		400	1504	2.27	1524	13	82	.44	-.42	3.8
		440	1590	2.19	1610	12	73	.38	-.36	3.7
		480	1669	2.11	1688	11	65	.33	-.32	3.6
		520	1742	2.03	1759	10	59	.29	-.28	3.4
		560	1808	1.96	1825	10	53	.26	-.25	3.3
5	300	360	1608	2.70	1636	15	101	.54	-.51	4.6
		400	1721	2.61	1747	13	89	.46	-.44	4.4
		440	1825	2.51	1849	12	79	.39	-.38	4.2
		480	1920	2.43	1943	12	71	.34	-.33	4.1
		520	2007	2.34	2030	11	64	.30	-.29	4.0
		560	2088	2.27	2110	10	58	.27	-.26	3.8
5	350	360	1794	3.02	1828	16	109	.57	-.54	5.1
		400	1924	2.92	1956	14	96	.48	-.45	4.9
		440	2044	2.82	2074	13	85	.41	-.39	4.8
		480	2155	2.73	2184	12	77	.35	-.34	4.6
		520	2258	2.64	2285	12	69	.31	-.30	4.5
		560	2353	2.56	2379	11	63	.28	-.27	4.3
5	400	360	1969	3.32	2009	16	117	.59	-.55	5.6
		400	2116	3.21	2153	15	103	.49	-.47	5.4
		440	2252	3.11	2287	14	91	.42	-.40	5.3
		480	2378	3.02	2411	13	82	.37	-.35	5.1
		520	2495	2.92	2527	12	74	.32	-.31	4.9
		560	2604	2.84	2634	12	68	.29	-.28	4.8
5	450	360	2135	3.60	2182	17	124	.61	-.57	6.1
		400	2297	3.49	2341	16	109	.51	-.48	5.9
		440	2449	3.39	2490	15	97	.43	-.42	5.7
		480	2590	3.29	2628	14	87	.38	-.36	5.6
		520	2721	3.19	2758	13	79	.33	-.32	5.4
		560	2843	3.10	2879	12	72	.30	-.29	5.2
5	500	360	2294	3.87	2347	18	131	.62	-.59	6.5
		400	2470	3.76	2520	16	115	.52	-.50	6.3
		440	2637	3.65	2684	15	103	.45	-.43	6.2
		480	2792	3.55	2836	14	92	.39	-.37	6.0
		520	2937	3.45	2979	13	84	.34	-.33	5.8
		560	3073	3.36	3113	13	76	.30	-.29	5.7
5	1000	360	3586	6.11	3723	24	187	.77	-.73	10.3
		400	3894	5.99	4020	22	166	.65	-.62	10.1
		440	4187	5.87	4305	20	149	.55	-.53	9.9
		480	4466	5.75	4577	19	135	.48	-.46	9.7
		520	4731	5.63	4835	18	123	.42	-.40	9.5
		560	4983	5.52	5083	17	112	.37	-.36	9.3
5	1500	360	4588	7.88	4827	29	231	.89	-.84	13.3
		400	5000	7.75	5220	26	206	.74	-.71	13.1
		440	5394	7.62	5599	25	185	.63	-.61	12.9
		480	5772	7.50	5964	23	168	.55	-.53	12.7
		520	6136	7.38	6316	21	154	.48	-.46	12.5
		560	6484	7.26	6655	20	141	.43	-.41	12.3
5	2000	440	6414	9.12	6719	28	216	.70	-.67	15.4
		480	6877	9.00	7162	26	197	.61	-.58	15.2
		520	7324	8.87	7592	24	180	.53	-.51	15.0
		560	7754	8.75	8008	23	166	.47	-.46	14.8

Table 6-26. (Sheet 4)

DIVE BOMBING TABLES
FOR
FINNED BLU-32 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
5	2500	480	7850	10.34	8238	29	222	.66	-.63	17.4
		520	8371	10.21	8736	27	204	.58	-.56	17.2
		560	8873	10.09	9219	25	188	.51	-.49	17.0
5	3000	520	9315	11.43	9786	29	225	.62	-.60	19.3
		560	9883	11.31	10328	28	208	.55	-.53	19.1
10	300	360	1166	1.98	1204	17	83	.74	-.70	3.3
		400	1218	1.86	1254	16	72	.64	-.61	3.1
10	350	360	1323	2.25	1368	18	89	.75	-.71	3.8
		400	1385	2.12	1429	17	77	.65	-.62	3.6
		440	1439	2.00	1481	16	68	.57	-.54	3.4
		480	1487	1.90	1527	15	61	.51	-.48	3.2
10	400	360	1472	2.51	1526	19	95	.77	-.73	4.2
		400	1546	2.37	1597	18	83	.66	-.63	4.0
		440	1610	2.24	1659	17	73	.58	-.55	3.8
		480	1666	2.13	1713	16	65	.51	-.49	3.6
		520	1715	2.02	1761	15	58	.46	-.44	3.4
		560	1758	1.93	1803	15	52	.42	-.40	3.3
10	450	360	1616	2.75	1677	20	101	.78	-.74	4.6
		400	1700	2.61	1759	18	88	.67	-.64	4.4
		440	1774	2.48	1830	17	77	.59	-.56	4.2
		480	1839	2.35	1893	16	69	.52	-.50	4.0
		520	1896	2.24	1948	16	62	.47	-.45	3.8
		560	1946	2.14	1998	15	56	.42	-.41	3.6
10	500	360	1754	2.99	1824	20	107	.80	-.76	5.1
		400	1849	2.84	1915	19	93	.69	-.65	4.8
		440	1933	2.70	1996	18	82	.60	-.57	4.6
		480	2006	2.57	2068	17	73	.53	-.51	4.3
		520	2072	2.45	2131	16	65	.47	-.46	4.1
		560	2130	2.34	2187	15	59	.43	-.41	4.0
10	1000	360	2930	5.04	3096	26	157	.92	-.88	8.5
		400	3125	4.85	3281	24	137	.79	-.75	8.2
		440	3303	4.66	3451	22	122	.68	-.65	7.9
		480	3464	4.49	3605	21	108	.60	-.58	7.6
		520	3610	4.32	3746	20	97	.54	-.52	7.3
		560	3744	4.17	3875	19	88	.48	-.47	7.0
10	1500	360	3874	6.71	4154	30	197	1.02	-.97	11.3
		400	4157	6.50	4419	28	174	.87	-.83	11.0
		440	4419	6.29	4666	26	154	.75	-.72	10.6
		480	4660	6.09	4896	24	138	.66	-.64	10.3
		520	4883	5.90	5109	23	125	.59	-.57	10.0
		560	5090	5.72	5306	22	113	.53	-.51	9.7
10	2000	360	4682	8.16	5091	33	231	1.10	-1.04	13.8
		400	5044	7.93	5426	31	205	.94	-.90	13.4
		440	5381	7.71	5741	29	183	.81	-.78	13.0
		480	5696	7.50	6037	27	164	.71	-.69	12.7
		520	5990	7.29	6315	26	149	.63	-.61	12.3
		560	6263	7.10	6575	24	136	.57	-.55	12.0
10	2500	400	5832	9.22	6345	34	232	.99	-.95	15.6
		440	6238	8.99	6720	32	208	.86	-.83	15.2
		480	6620	8.77	7076	30	188	.76	-.73	14.8
		520	6979	8.55	7413	28	171	.67	-.65	14.4
		560	7314	8.35	7730	27	156	.60	-.58	14.1

Table 6-26. (Sheet 5)

DIVE BOMBING TABLES
FOR
FINNED BLU-32 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
10	3000	440	7017	10.16	7631	34	231	.91	-.87	17.2
		480	7461	9.93	8041	32	209	.80	-.77	16.8
		520	7880	9.71	8432	30	190	.71	-.68	16.4
		560	8274	9.50	8801	29	174	.63	-.61	16.0
10	3500	480	8237	11.02	8950	34	228	.83	-.80	18.6
		520	8712	10.80	9389	32	208	.74	-.71	18.2
		560	9160	10.58	9806	30	191	.66	-.64	17.9
15	400	360	1139	1.98	1207	22	81	.97	-.92	3.3
15	450	360	1260	2.19	1338	23	86	.98	-.93	3.7
		400	1306	2.04	1382	22	75	.86	-.82	3.4
15	500	360	1378	2.40	1466	23	91	.99	-.94	4.0
		400	1431	2.24	1516	22	79	.86	-.82	3.8
		440	1476	2.10	1558	21	69	.76	-.73	3.5
15	1000	360	2414	4.23	2613	28	134	1.09	-1.03	7.1
		400	2538	4.01	2728	26	116	.94	-.90	6.8
		440	2647	3.80	2830	25	102	.83	-.79	6.4
		480	2742	3.61	2919	24	90	.74	-.71	6.1
		520	2826	3.44	2998	23	80	.67	-.64	5.8
		560	2900	3.28	3067	22	72	.61	-.59	5.5
15	1500	360	3277	5.78	3604	32	170	1.17	-1.11	9.8
		400	3471	5.52	3781	30	148	1.01	-.96	9.3
		440	3644	5.27	3941	28	131	.89	-.85	8.9
		480	3799	5.04	4084	27	116	.79	-.76	8.5
		520	3937	4.83	4213	26	104	.71	-.68	8.2
		560	4061	4.63	4329	25	94	.64	-.62	7.8
15	2000	360	4030	7.15	4499	35	201	1.23	-1.17	12.1
		400	4290	6.86	4733	33	176	1.06	-1.02	11.6
		440	4525	6.59	4947	31	156	.93	-.90	11.1
		480	4738	6.33	5143	29	139	.83	-.80	10.7
		520	4931	6.09	5321	28	125	.74	-.72	10.3
		560	5105	5.86	5483	27	113	.67	-.65	9.9
15	2500	360	4705	8.39	5328	38	228	1.28	-1.23	14.2
		400	5027	8.08	5615	35	201	1.11	-1.06	13.6
		440	5321	7.79	5879	33	179	.98	-.94	13.1
		480	5590	7.51	6123	32	160	.87	-.83	12.7
		520	5835	7.25	6348	30	144	.78	-.75	12.2
		560	6058	7.01	6554	29	131	.70	-.68	11.8
15	3000	400	5703	9.21	6444	38	224	1.15	-1.11	15.5
		440	6052	8.90	6755	35	200	1.01	-.97	15.0
		480	6374	8.61	7045	34	179	.90	-.87	14.5
		520	6670	8.34	7314	32	162	.81	-.78	14.1
		560	6940	8.08	7561	30	147	.73	-.71	13.6
15	3500	440	6731	9.95	7587	37	219	1.05	-1.01	16.8
		480	7103	9.65	7919	35	197	.93	-.90	16.3
		520	7448	9.36	8229	34	178	.83	-.81	15.8
		560	7764	9.09	8516	32	163	.76	-.73	15.3
20	1000	360	2009	3.62	2244	31	116	1.26	-1.20	6.1
		400	2090	3.39	2317	30	100	1.11	-1.06	5.7
		440	2159	3.18	2379	28	87	.98	-.94	5.4
		480	2218	3.00	2433	27	77	.88	-.85	5.1
		520	2268	2.83	2479	26	69	.80	-.77	4.8
		560	2312	2.68	2519	26	62	.73	-.71	4.5
20	1500	360	2783	5.05	3161	35	148	1.32	-1.26	8.5
		400	2917	4.76	3280	33	128	1.16	-1.11	8.0
		440	3034	4.50	3385	31	112	1.03	-.98	7.6
		480	3135	4.27	3476	30	99	.92	-.89	7.2
		520	3224	4.05	3556	29	88	.83	-.80	6.8
		560	3301	3.86	3626	28	79	.76	-.74	6.5

Table 6-26. (Sheet 6)

DIVE BOMBING TABLES
FOR
FINNED BLU-32 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
20	2000	360	3471	6.33	4006	37	176	1.37	-1.31	10.7
		400	3659	6.01	4170	35	153	1.20	-1.15	10.1
		440	3824	5.71	4316	34	135	1.06	-1.02	9.6
		480	3969	5.44	4445	32	119	.95	-.92	9.2
		520	4098	5.19	4560	31	106	.86	-.83	8.8
		560	4211	4.95	4662	30	96	.79	-.76	8.4
20	2500	360	4096	7.50	4799	40	201	1.42	-1.35	12.7
		400	4336	7.15	5005	38	176	1.24	-1.19	12.1
		440	4549	6.83	5191	36	155	1.10	-1.06	11.5
		480	4738	6.53	5357	34	138	.98	-.95	11.0
		520	4908	6.25	5508	33	123	.89	-.86	10.5
		560	5058	5.99	5642	31	111	.81	-.79	10.1
20	3000	360	4673	8.59	5553	42	223	1.45	-1.39	14.5
		400	4962	8.22	5798	40	196	1.27	-1.22	13.9
		440	5221	7.87	6021	38	174	1.13	-1.08	13.3
		480	5454	7.55	6225	36	155	1.01	-.97	12.7
		520	5664	7.25	6410	34	139	.91	-.88	12.2
		560	5851	6.97	6576	33	126	.83	-.81	11.8
20	3500	400	5546	9.23	6558	42	215	1.30	-1.25	15.6
		440	5851	8.86	6818	39	191	1.15	-1.11	15.0
		480	6127	8.52	7056	38	171	1.03	-1.00	14.4
		520	6376	8.20	7274	36	154	.93	-.90	13.8
		560	6600	7.90	7470	35	140	.85	-.83	13.3
30	1000	360	1428	2.80	1743	38	91	1.62	-1.54	4.7
30	1500	360	2032	4.00	2525	41	115	1.64	-1.57	6.8
		400	2100	3.72	2581	39	99	1.46	-1.40	6.3
		440	2158	3.47	2628	38	86	1.31	-1.26	5.9
		480	2205	3.25	2667	37	76	1.19	-1.15	5.5
30	2000	360	2586	5.12	3269	43	137	1.67	-1.60	8.6
		400	2687	4.78	3350	41	118	1.48	-1.42	8.1
		440	2773	4.49	3419	40	103	1.33	-1.28	7.6
		480	2845	4.22	3478	39	91	1.21	-1.17	7.1
		520	2907	3.98	3528	38	81	1.10	-1.07	6.7
		560	2960	3.76	3572	37	72	1.02	-.99	6.4
30	2500	360	3100	6.16	3982	45	157	1.68	-1.62	10.4
		400	3235	5.79	4089	43	136	1.50	-1.44	9.8
		440	3351	5.45	4181	42	119	1.35	-1.30	9.2
		480	3449	5.14	4260	40	105	1.22	-1.18	8.7
		520	3534	4.86	4329	39	94	1.12	-1.08	8.2
		560	3608	4.61	4389	38	84	1.03	-1.00	7.8
30	3000	360	3581	7.15	4672	47	175	1.70	-1.63	12.1
		400	3751	6.74	4803	45	153	1.51	-1.46	11.4
		440	3897	6.36	4918	43	134	1.36	-1.32	10.7
		480	4023	6.02	5019	42	119	1.24	-1.20	10.2
		520	4133	5.71	5107	41	106	1.13	-1.10	9.6
		560	4227	5.43	5184	40	95	1.04	-1.01	9.2
30	3500	360	4035	8.08	5342	49	192	1.71	-1.65	13.6
		400	4239	7.64	5497	46	168	1.53	-1.47	12.9
		440	4416	7.24	5635	45	148	1.38	-1.33	12.2
		480	4570	6.87	5756	43	131	1.25	-1.21	11.6
		520	4705	6.53	5864	42	117	1.14	-1.11	11.0
		560	4821	6.23	5958	41	105	1.06	-1.03	10.5
30	4000	360	4466	8.98	5995	50	208	1.73	-1.66	15.2
		400	4703	8.51	6174	48	182	1.54	-1.49	14.4
		440	4911	8.08	6334	46	161	1.39	-1.34	13.6
		480	5093	7.69	6476	44	143	1.26	-1.22	13.0
		520	5254	7.32	6603	43	128	1.16	-1.12	12.4
		560	5393	7.00	6714	42	116	1.07	-1.04	11.8

Table 6-26. (Sheet 7)

DIVE BOMBING TABLES
FOR
FINNED BLU-32 FIRE BOMB

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
30	4500	360	4876	9.83	6635	51	223	1.73	-1.67	16.6
		400	5147	9.35	6837	49	196	1.55	-1.50	15.8
		440	5385	8.89	7018	47	174	1.40	-1.35	15.0
		480	5596	8.48	7181	45	155	1.27	-1.23	14.3
		520	5782	8.09	7327	44	139	1.17	-1.13	13.7
		560	5943	7.76	7455	43	125	1.08	-1.05	13.1
30	5000	360	5268	10.66	7263	53	237	1.74	-1.68	18.0
		400	5572	10.15	7486	50	209	1.56	-1.51	17.1
		440	5841	9.68	7689	48	185	1.41	-1.36	16.3
		480	6079	9.24	7871	47	166	1.28	-1.24	15.6
		520	6292	8.84	8036	45	149	1.18	-1.14	14.9
		560	6475	8.49	8181	44	135	1.09	-1.06	14.3
30	5500	400	5980	10.93	8125	51	221	1.57	-1.52	18.4
		440	6279	10.44	8348	49	197	1.42	-1.37	17.6
		480	6546	9.99	8550	48	176	1.29	-1.25	16.9
		520	6784	9.56	8733	46	159	1.18	-1.15	16.1
		560	6989	9.21	8894	45	144	1.10	-1.07	15.5
30	6000	400	6374	11.68	8754	52	233	1.57	-1.52	19.7
		440	6703	11.18	8996	50	207	1.43	-1.38	18.9
		480	6997	10.71	9217	49	186	1.30	-1.26	18.1
		520	7261	10.27	9419	47	168	1.19	-1.16	17.3
		560	7487	9.91	9595	46	153	1.11	-1.08	16.7
45	2000	360	1652	4.03	2594	54	98	2.08	-2.01	6.8
45	2500	360	2008	4.92	3207	55	111	2.07	-2.00	8.3
		400	2071	4.56	3246	54	96	1.87	-1.81	7.7
		440	2122	4.24	3279	53	84	1.70	-1.65	7.2
45	3000	360	2347	5.77	3809	56	123	2.06	-1.99	9.7
		400	2428	5.36	3859	55	107	1.86	-1.81	9.1
		440	2495	5.00	3902	54	93	1.70	-1.65	8.4
		480	2551	4.68	3938	53	82	1.56	-1.52	7.9
45	3500	360	2671	6.59	4403	58	135	2.05	-1.99	11.1
		400	2771	6.14	4464	56	117	1.86	-1.80	10.4
		440	2854	5.74	4516	55	103	1.69	-1.65	9.7
		480	2925	5.39	4561	54	91	1.56	-1.52	9.1
		520	2984	5.07	4599	53	81	1.44	-1.41	8.6
45	4000	360	2982	7.38	4989	59	146	2.04	-1.98	12.5
		400	3102	6.90	5062	57	127	1.85	-1.80	11.6
		440	3202	6.46	5124	56	112	1.69	-1.65	10.9
		480	3287	6.08	5177	54	99	1.56	-1.52	10.3
		520	3359	5.73	5224	54	88	1.44	-1.41	9.7
		560	3421	5.43	5263	53	79	1.34	-1.31	9.2
45	4500	360	3281	8.14	5569	60	157	2.03	-1.97	13.7
		400	3421	7.63	5652	58	137	1.85	-1.80	12.9
		440	3539	7.17	5725	57	120	1.69	-1.65	12.1
		480	3639	6.75	5787	55	107	1.56	-1.52	11.4
		520	3725	6.37	5841	54	95	1.44	-1.41	10.8
		560	3797	6.05	5888	53	86	1.35	-1.32	10.2
45	5000	360	3570	8.89	6144	60	167	2.02	-1.97	15.0
		400	3729	8.34	6238	59	146	1.84	-1.79	14.1
		440	3865	7.85	6320	57	128	1.69	-1.64	13.3
		480	3981	7.41	6391	56	114	1.55	-1.52	12.5
		520	4081	7.01	6454	55	102	1.44	-1.41	11.8
		560	4165	6.67	6507	54	92	1.35	-1.32	11.3
45	5500	360	3849	9.61	6713	61	176	2.01	-1.96	16.2
		400	4028	9.04	6818	60	154	1.84	-1.79	15.3
		440	4182	8.52	6909	58	136	1.68	-1.64	14.4
		480	4314	8.05	6990	57	121	1.55	-1.52	13.6
		520	4428	7.63	7061	56	109	1.44	-1.41	12.9
		560	4524	7.28	7121	55	98	1.35	-1.32	12.3

Table 6-27. (Sheet 1)

LEVEL BOMBING TABLES
FOR
BDU-33A/B PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CRAB
0	50	360	731	1.21	733	6	77	.23	-.21	2.0	.0
		400	812	1.21	814	5	69	.18	-.17	2.0	.0
		440	893	1.21	894	5	63	.15	-.14	2.0	.0
		480	973	1.21	975	4	58	.13	-.12	2.1	.0
		520	1054	1.22	1055	4	53	.11	-.10	2.1	.0
		560	1134	1.22	1135	4	49	.09	-.09	2.1	.0
0	75	360	956	1.59	959	7	85	.25	-.24	2.7	.0
		400	1062	1.59	1065	6	77	.20	-.19	2.7	.0
		440	1167	1.59	1170	6	70	.17	-.16	2.7	.0
		480	1272	1.59	1275	5	64	.14	-.13	2.7	.0
		520	1377	1.59	1379	5	59	.12	-.11	2.7	.0
		560	1482	1.60	1484	4	55	.10	-.10	2.7	.0
0	100	360	1149	1.91	1153	8	93	.27	-.26	3.2	.0
		400	1275	1.91	1279	7	83	.22	-.21	3.2	.0
		440	1402	1.92	1405	7	76	.18	-.17	3.2	.0
		480	1527	1.92	1531	6	69	.15	-.15	3.2	.1
		520	1653	1.92	1656	6	64	.13	-.12	3.2	.1
		560	1778	1.92	1781	5	60	.11	-.11	3.2	.1
0	125	360	1319	2.20	1325	9	100	.29	-.27	3.7	.1
		400	1464	2.20	1470	8	90	.24	-.22	3.7	.1
		440	1609	2.21	1614	7	82	.19	-.19	3.7	.1
		480	1753	2.21	1758	7	75	.16	-.16	3.7	.1
		520	1897	2.21	1901	6	69	.14	-.13	3.7	.1
		560	2040	2.21	2044	6	64	.12	-.12	3.7	.1
0	150	360	1474	2.46	1482	10	106	.31	-.29	4.2	.1
		400	1636	2.47	1643	9	96	.25	-.24	4.2	.1
		440	1797	2.47	1804	8	87	.21	-.20	4.2	.1
		480	1958	2.47	1964	7	80	.17	-.17	4.2	.1
		520	2119	2.47	2124	7	74	.15	-.14	4.2	.1
		560	2278	2.48	2283	6	68	.13	-.12	4.2	.1
0	200	360	1750	2.93	1761	11	118	.34	-.32	4.9	.1
		400	1941	2.94	1952	10	106	.28	-.26	5.0	.1
		440	2132	2.94	2142	9	97	.23	-.22	5.0	.1
		480	2322	2.94	2331	8	89	.19	-.19	5.0	.1
		520	2512	2.95	2520	8	82	.17	-.16	5.0	.1
		560	2700	2.95	2707	7	76	.14	-.14	5.0	.2
0	250	360	1993	3.35	2008	12	128	.37	-.35	5.7	.1
		400	2211	3.35	2225	11	116	.30	-.29	5.7	.1
		440	2427	3.36	2440	10	105	.25	-.24	5.7	.1
		480	2643	3.36	2655	9	97	.21	-.20	5.7	.2
		520	2858	3.37	2869	9	90	.18	-.17	5.7	.2
		560	3074	3.37	3084	8	83	.16	-.15	5.7	.2
0	300	360	2212	3.73	2233	13	138	.40	-.38	6.3	.1
		400	2454	3.73	2472	12	125	.33	-.31	6.3	.2
		440	2694	3.74	2711	11	114	.27	-.26	6.3	.2
		480	2933	3.74	2948	10	104	.23	-.22	6.3	.2
		520	3172	3.75	3186	10	96	.20	-.19	6.3	.2
		560	3406	3.75	3419	9	90	.17	-.16	6.3	.3
0	350	360	2414	4.07	2440	14	147	.43	-.40	6.9	.2
		400	2677	4.08	2700	13	133	.35	-.33	6.9	.2
		440	2939	4.09	2959	12	121	.29	-.28	6.9	.2
		480	3198	4.09	3217	11	111	.24	-.23	6.9	.2
		520	3456	4.10	3474	10	103	.21	-.20	6.9	.3
		560	3712	4.11	3729	10	96	.18	-.18	6.9	.3
0	400	360	2602	4.40	2633	15	155	.45	-.43	7.4	.2
		400	2885	4.41	2912	14	140	.37	-.35	7.4	.2
		440	3166	4.41	3191	13	128	.31	-.29	7.4	.3
		480	3445	4.42	3468	12	118	.26	-.25	7.5	.3
		520	3722	4.43	3744	11	109	.22	-.21	7.5	.3
		560	3997	4.44	4017	10	101	.19	-.19	7.5	.4

Table 6-27. (Sheet 2)

LEVEL BOMBING TABLES
FOR
BDU-33A/B PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CRAB FT/KNOT
0	450	360	2778	4.71	2814	16	163	.48	-.45	7.9	.2
		400	3080	4.71	3112	15	148	.39	-.37	8.0	.3
		440	3379	4.72	3409	14	135	.32	-.31	8.0	.3
		480	3676	4.73	3704	13	124	.27	-.26	8.0	.3
		520	3971	4.74	3997	12	115	.23	-.23	8.0	.4
		560	4265	4.75	4289	11	107	.20	-.20	8.0	.4
0	500	360	2944	5.00	2987	17	171	.50	-.47	8.4	.3
		400	3263	5.00	3302	16	154	.41	-.39	8.4	.3
		440	3580	5.01	3615	14	141	.34	-.32	8.5	.3
		480	3894	5.02	3926	13	130	.29	-.27	8.5	.4
		520	4206	5.03	4236	12	120	.25	-.24	8.5	.4
		560	4515	5.04	4543	12	112	.21	-.21	8.5	.4
0	600	360	3253	5.54	3308	19	185	.54	-.51	9.3	.3
		400	3605	5.55	3654	17	167	.44	-.42	9.4	.4
		440	3953	5.56	3998	16	153	.37	-.35	9.4	.4
		480	4299	5.57	4340	15	140	.31	-.30	9.4	.4
		520	4641	5.58	4680	14	130	.27	-.26	9.4	.5
		560	4980	5.59	5016	13	121	.23	-.22	9.4	.5
0	700	360	3536	6.04	3605	20	198	.57	-.54	10.2	.4
		400	3917	6.05	3979	18	179	.47	-.45	10.2	.4
		440	4295	6.06	4351	17	163	.39	-.38	10.2	.5
		480	4669	6.07	4721	16	150	.33	-.32	10.3	.5
		520	5040	6.09	5088	15	139	.29	-.28	10.3	.6
		560	5406	6.10	5451	14	130	.25	-.24	10.3	.6
0	800	360	3798	6.50	3881	22	210	.61	-.58	11.0	.4
		400	4207	6.51	4282	20	190	.50	-.47	11.0	.5
		440	4612	6.53	4680	18	173	.42	-.40	11.0	.5
		480	5012	6.54	5075	17	160	.36	-.34	11.0	.6
		520	5408	6.56	5467	16	148	.31	-.29	11.1	.7
		560	5800	6.58	5855	15	138	.27	-.26	11.1	.7
0	900	360	4045	6.94	4144	23	221	.64	-.61	11.7	.5
		400	4479	6.95	4568	21	200	.53	-.50	11.7	.5
		440	4908	6.97	4990	19	183	.44	-.42	11.8	.6
		480	5333	6.99	5408	18	169	.38	-.36	11.8	.7
		520	5753	7.00	5823	17	157	.32	-.31	11.8	.8
		560	6168	7.02	6233	16	146	.28	-.27	11.9	.8
0	1000	400	4735	7.37	4839	22	210	.55	-.52	12.4	.6
		440	5187	7.39	5283	20	192	.46	-.44	12.5	.7
		480	5635	7.41	5723	19	177	.39	-.38	12.5	.8
		520	6078	7.43	6160	18	164	.34	-.33	12.5	.8
		560	6514	7.45	6591	17	153	.30	-.29	12.6	.9
0	1100	400	4977	7.77	5097	23	219	.58	-.55	13.1	.7
		440	5452	7.79	5562	21	201	.48	-.46	13.1	.8
		480	5922	7.81	6023	20	185	.41	-.40	13.2	.8
		520	6385	7.83	6479	18	172	.36	-.34	13.2	.9
		560	6842	7.85	6930	17	161	.31	-.30	13.3	1.0
0	1200	440	5705	8.17	5830	22	209	.50	-.48	13.8	.8
		480	6194	8.19	6309	21	193	.43	-.41	13.8	.9
		520	6678	8.22	6785	19	179	.37	-.36	13.9	1.0
		560	7154	8.24	7254	18	167	.33	-.31	13.9	1.1
0	1300	440	5946	8.54	6086	23	217	.52	-.50	14.4	.9
		480	6455	8.56	6585	21	200	.45	-.43	14.5	1.0
		520	6958	8.59	7078	20	186	.39	-.37	14.5	1.1
		560	7452	8.61	7565	19	174	.34	-.33	14.5	1.2

Table 6-27. (Sheet 3)

LEVEL BOMBING TABLES
FOR
BDU-33A/B PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CROSS CRAB FT/KNOT
0	1400	480	6705	8.92	6850	22	207	.46	-.44	15.1	1.1
		520	7226	8.94	7360	21	192	.40	-.39	15.1	1.2
		560	7738	8.97	7864	20	180	.35	-.34	15.1	1.3
0	1500	480	6946	9.26	7106	23	214	.48	-.46	15.6	1.2
		520	7484	9.29	7633	22	199	.42	-.40	15.7	1.3
		560	8013	9.32	8152	20	186	.36	-.35	15.7	1.4
0	1600	520	7732	9.62	7896	22	205	.43	-.41	16.2	1.4
		560	8278	9.65	8431	21	192	.38	-.36	16.3	1.5
0	1700	520	7973	9.95	8152	23	211	.44	-.42	16.8	1.5
		560	8533	9.98	8701	22	198	.39	-.37	16.8	1.6
0	1800	520	8205	10.26	8400	24	217	.45	-.44	17.3	1.5
		560	8781	10.30	8963	22	203	.40	-.38	17.4	1.7
0	1900	560	9021	10.61	9219	23	209	.41	-.40	17.9	1.8
0	2000	560	9254	10.91	9467	24	214	.42	-.41	18.4	1.9

Table 6-27. (Sheet 4)

DIVE BOMBING TABLES
FOR
BDU-33A/B PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL	CROSS FT/KT
5	200	360	1141	1.91	1158	13	92	.52	-.49	3.2
		400	1215	1.84	1231	12	81	.44	-.42	3.1
		440	1282	1.76	1297	11	72	.38	-.36	3.0
		480	1343	1.69	1358	10	65	.33	-.32	2.9
		520	1398	1.63	1413	10	59	.29	-.28	2.8
		560	1449	1.57	1463	9	54	.26	-.25	2.6
5	250	360	1352	2.27	1375	14	101	.54	-.51	3.8
		400	1444	2.19	1465	13	89	.46	-.44	3.7
		440	1528	2.11	1548	12	79	.39	-.38	3.6
		480	1605	2.03	1625	11	71	.34	-.33	3.4
		520	1676	1.96	1694	11	64	.30	-.29	3.3
		560	1741	1.89	1759	10	59	.27	-.26	3.2
5	300	360	1547	2.61	1576	15	109	.57	-.53	4.4
		400	1657	2.51	1684	14	96	.48	-.45	4.2
		440	1757	2.43	1783	13	85	.41	-.39	4.1
		480	1850	2.35	1874	12	77	.36	-.34	4.0
		520	1936	2.27	1959	11	70	.31	-.30	3.8
		560	2014	2.20	2037	11	64	.28	-.27	3.7
5	350	360	1730	2.92	1765	16	116	.59	-.56	4.9
		400	1856	2.82	1889	14	103	.49	-.47	4.8
		440	1973	2.73	2004	13	92	.42	-.40	4.6
		480	2081	2.65	2110	13	82	.37	-.35	4.5
		520	2181	2.56	2209	12	75	.33	-.31	4.3
		560	2273	2.49	2300	11	68	.29	-.28	4.2
5	400	360	1902	3.21	1943	17	124	.61	-.57	5.4
		400	2044	3.12	2083	15	109	.51	-.49	5.3
		440	2176	3.02	2213	14	98	.44	-.42	5.1
		480	2299	2.93	2333	13	88	.38	-.36	4.9
		520	2413	2.85	2446	12	80	.34	-.32	4.8
		560	2519	2.76	2550	12	73	.30	-.29	4.7
5	450	360	2065	3.50	2113	17	131	.63	-.59	5.9
		400	2222	3.39	2268	16	116	.53	-.50	5.7
		440	2370	3.30	2412	15	103	.45	-.43	5.6
		480	2506	3.20	2547	14	93	.39	-.38	5.4
		520	2634	3.11	2672	13	84	.35	-.33	5.3
		560	2753	3.03	2790	12	77	.31	-.30	5.1
5	500	360	2220	3.77	2275	18	138	.65	-.61	6.4
		400	2393	3.66	2444	17	122	.54	-.52	6.2
		440	2554	3.56	2603	15	109	.46	-.44	6.0
		480	2705	3.46	2751	14	98	.40	-.39	5.8
		520	2846	3.37	2889	14	89	.35	-.34	5.7
		560	2977	3.29	3019	13	81	.32	-.30	5.5
5	1000	360	3495	6.01	3635	25	194	.80	-.76	10.1
		400	3793	5.89	3923	23	173	.67	-.64	9.9
		440	4077	5.78	4198	21	155	.57	-.55	9.8
		480	4346	5.67	4459	19	141	.50	-.48	9.6
		520	4602	5.57	4709	18	128	.44	-.42	9.4
		560	4844	5.46	4946	17	118	.39	-.37	9.2
5	1500	400	4879	7.66	5104	27	213	.77	-.73	12.9
		440	5259	7.55	5469	25	192	.66	-.63	12.7
		480	5623	7.44	5819	23	175	.57	-.55	12.6
		520	5970	7.33	6156	22	160	.50	-.48	12.4
		560	6301	7.23	6477	21	148	.45	-.43	12.2
5	2000	440	6254	9.08	6566	28	224	.73	-.70	15.3
		480	6697	8.97	6989	27	204	.64	-.61	15.1
		520	7122	8.86	7397	25	188	.56	-.54	15.0
		560	7528	8.76	7789	24	173	.50	-.48	14.8

Table 6-27. (Sheet 5)

DIVE BOMBING TABLES
FOR
BDU-33A/B PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
5	2500	520	8130	10.23	8506	28	212	.61	-.59	17.3
		560	8602	10.13	8958	26	196	.55	-.53	17.1
5	3000	560	9565	11.39	10025	29	217	.59	-.57	19.2
10	300	360	1128	1.92	1167	18	91	.76	-.72	3.2
		400	1180	1.81	1217	17	80	.66	-.62	3.1
10	350	360	1281	2.18	1328	18	97	.78	-.74	3.7
		400	1343	2.06	1388	17	85	.67	-.64	3.5
		440	1398	1.95	1441	16	75	.59	-.56	3.3
		480	1445	1.85	1487	16	67	.52	-.50	3.1
10	400	360	1428	2.44	1483	19	103	.79	-.75	4.1
		400	1501	2.31	1553	18	90	.68	-.65	3.9
		440	1564	2.19	1615	17	80	.60	-.57	3.7
		480	1620	2.08	1669	16	71	.53	-.51	3.5
		520	1670	1.98	1717	16	64	.47	-.46	3.3
		560	1714	1.89	1760	15	58	.43	-.41	3.2
10	450	360	1569	2.68	1632	20	109	.81	-.76	4.5
		400	1652	2.54	1712	19	95	.69	-.66	4.3
		440	1725	2.42	1783	18	84	.61	-.58	4.1
		480	1790	2.30	1846	17	75	.54	-.51	3.9
		520	1847	2.19	1901	16	68	.48	-.46	3.7
		560	1898	2.10	1951	15	61	.44	-.42	3.5
10	500	360	1704	2.92	1776	21	115	.82	-.78	4.9
		400	1798	2.77	1866	19	100	.70	-.67	4.7
		440	1881	2.64	1946	18	89	.62	-.59	4.5
		480	1954	2.52	2017	17	79	.54	-.52	4.2
		520	2019	2.40	2080	16	71	.49	-.47	4.1
		560	2077	2.30	2137	16	65	.44	-.43	3.9
10	1000	360	2861	4.96	3031	26	164	.95	-.90	8.4
		400	3053	4.77	3212	24	144	.81	-.77	8.1
		440	3227	4.60	3378	23	128	.70	-.67	7.8
		480	3385	4.43	3529	21	115	.62	-.60	7.5
		520	3529	4.28	3668	20	103	.55	-.53	7.2
		560	3660	4.13	3794	19	94	.50	-.48	7.0
10	1500	360	3790	6.64	4076	30	204	1.05	-1.00	11.2
		400	4066	6.43	4334	28	181	.90	-.85	10.9
		440	4322	6.23	4575	26	161	.78	-.74	10.5
		480	4557	6.05	4798	25	145	.68	-.66	10.2
		520	4775	5.87	5005	23	131	.61	-.59	9.9
		560	4975	5.70	5197	22	120	.55	-.53	9.6
10	2000	360	4584	8.10	5001	34	239	1.13	-1.07	13.7
		400	4936	7.88	5326	32	212	.97	-.92	13.3
		440	5264	7.67	5631	30	190	.84	-.81	12.9
		480	5569	7.48	5917	28	172	.74	-.71	12.6
		520	5853	7.29	6185	26	156	.66	-.64	12.3
		560	6117	7.11	6436	25	143	.59	-.57	12.0
10	2500	400	5706	9.18	6230	34	240	1.03	-.98	15.5
		440	6100	8.97	6592	32	216	.90	-.86	15.1
		480	6468	8.77	6934	30	195	.79	-.76	14.8
		520	6813	8.58	7257	29	178	.70	-.68	14.5
		560	7136	8.39	7561	27	163	.63	-.61	14.2

Table 6-27. (Sheet 6)

DIVE BOMBING TABLES
FOR
BDU-33A/B PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT	MILS/KNOT	FT/KT
10	3000	480	7283	9.97	7877	33	217	.83	-.80	16.8
		520	7684	9.77	8249	31	199	.74	-.72	16.5
		560	8060	9.58	8600	30	183	.67	-.65	16.2
10	3500	520	8486	10.88	9179	33	218	.78	-.75	18.4
		560	8911	10.69	9574	32	201	.70	-.68	18.0
10	4000	560	9702	11.75	10494	33	217	.74	-.71	19.8
15	400	360	1109	1.93	1179	23	90	.99	-.94	3.3
15	450	360	1227	2.14	1307	23	95	1.00	-.95	3.6
		400	1275	2.00	1352	22	82	.88	-.83	3.4
15	500	360	1343	2.34	1433	24	99	1.01	-.96	4.0
		400	1396	2.19	1483	22	86	.88	-.84	3.7
		440	1442	2.06	1526	22	76	.78	-.75	3.5
15	1000	360	2361	4.17	2564	29	142	1.11	-1.06	7.0
		400	2485	3.95	2679	27	123	.96	-.92	6.7
		440	2593	3.75	2779	25	109	.85	-.81	6.3
		480	2688	3.57	2868	24	97	.76	-.73	6.0
		520	2772	3.40	2947	23	87	.68	-.66	5.7
		560	2846	3.25	3016	22	78	.62	-.60	5.5
15	1500	360	3210	5.72	3543	32	178	1.19	-1.14	9.7
		400	3402	5.47	3718	30	156	1.03	-.99	9.2
		440	3573	5.23	3875	29	138	.91	-.87	8.8
		480	3726	5.01	4017	27	123	.81	-.78	8.5
		520	3863	4.81	4144	26	110	.73	-.70	8.1
		560	3986	4.62	4259	25	100	.66	-.64	7.8
15	2000	360	3950	7.10	4428	36	209	1.26	-1.20	12.0
		400	4206	6.82	4658	33	184	1.09	-1.05	11.5
		440	4437	6.56	4867	31	163	.96	-.92	11.1
		480	4646	6.32	5059	30	146	.86	-.82	10.7
		520	4836	6.09	5233	28	132	.77	-.74	10.3
		560	5007	5.87	5392	27	120	.70	-.68	9.9
15	2500	360	4613	8.35	5247	38	237	1.32	-1.26	14.1
		400	4929	8.06	5527	36	209	1.14	-1.10	13.6
		440	5216	7.78	5785	34	187	1.01	-.97	13.1
		480	5479	7.52	6022	32	168	.90	-.86	12.7
		520	5719	7.28	6241	31	152	.81	-.78	12.3
		560	5937	7.05	6442	29	138	.73	-.71	11.9
15	3000	400	5589	9.20	6344	38	232	1.19	-1.14	15.5
		440	5930	8.92	6646	36	208	1.05	-1.01	15.0
		480	6243	8.65	6926	34	187	.93	-.90	14.6
		520	6530	8.39	7187	33	170	.84	-.81	14.2
		560	6794	8.14	7427	31	155	.76	-.74	13.7
15	3500	440	6591	9.98	7462	38	228	1.09	-1.04	16.9
		480	6951	9.70	7783	36	206	.97	-.93	16.4
		520	7284	9.44	8082	35	187	.87	-.84	15.9
		560	7591	9.19	8359	33	171	.79	-.77	15.5
15	4000	480	7614	10.71	8601	38	223	1.00	-.96	18.1
		520	7990	10.44	8936	36	203	.90	-.87	17.6
		560	8338	10.18	9248	35	186	.82	-.79	17.2

Table 6-27. (Sheet 7)

DIVE BOMBING TABLES
FOR
BDU-33A/B PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
15	4500	480	8238	11.67	9387	40	239	1.03	-.99	19.7
		520	8656	11.39	9756	38	218	.93	-.90	19.2
		560	9042	11.13	10100	36	201	.85	-.82	18.8
15	5000	520	9286	12.31	10547	39	233	.95	-.92	20.8
		560	9710	12.04	10921	38	215	.87	-.84	20.3
15	5500	560	10345	12.92	11716	39	228	.89	-.86	21.8
20	1000	360	1968	3.57	2207	32	124	1.29	-1.23	6.0
		400	2050	3.35	2281	30	108	1.13	-1.08	5.7
		440	2119	3.15	2343	29	95	1.00	-.96	5.3
		480	2179	2.97	2397	28	84	.90	-.87	5.0
		520	2230	2.81	2444	27	75	.82	-.79	4.7
		560	2275	2.66	2485	26	68	.75	-.72	4.5
20	1500	360	2729	5.00	3114	35	156	1.35	-1.29	8.4
		400	2864	4.72	3233	33	136	1.18	-1.13	8.0
		440	2980	4.47	3336	32	119	1.05	-1.01	7.5
		480	3082	4.24	3427	30	106	.94	-.91	7.2
		520	3170	4.04	3507	29	95	.85	-.82	6.8
		560	3248	3.85	3578	28	85	.78	-.76	6.5
20	2000	360	3406	6.28	3950	38	184	1.40	-1.34	10.6
		400	3593	5.97	4112	36	161	1.23	-1.18	10.1
		440	3757	5.69	4256	34	142	1.09	-1.05	9.6
		480	3901	5.43	4384	33	126	.98	-.94	9.2
		520	4029	5.18	4498	31	113	.89	-.86	8.8
		560	4142	4.96	4600	30	102	.81	-.78	8.4
20	2500	360	4021	7.47	4734	40	209	1.45	-1.38	12.6
		400	4257	7.13	4937	38	184	1.27	-1.22	12.0
		440	4468	6.82	5119	36	163	1.13	-1.08	11.5
		480	4655	6.53	5284	35	145	1.01	-.98	11.0
		520	4822	6.27	5432	33	131	.92	-.89	10.6
		560	4972	6.02	5565	32	118	.84	-.81	10.2
20	3000	360	4585	8.57	5480	43	232	1.49	-1.42	14.5
		400	4870	8.22	5720	40	204	1.31	-1.25	13.9
		440	5126	7.89	5939	38	182	1.16	-1.12	13.3
		480	5355	7.58	6138	37	163	1.04	-1.01	12.8
		520	5562	7.29	6319	35	147	.95	-.91	12.3
		560	5747	7.02	6483	34	133	.86	-.84	11.9
20	3500	400	5442	9.25	6470	42	224	1.34	-1.28	15.6
		440	5740	8.90	6723	40	200	1.19	-1.15	15.0
		480	6011	8.58	6955	38	179	1.07	-1.03	14.5
		520	6255	8.27	7168	37	162	.97	-.94	14.0
		560	6476	7.99	7361	35	147	.89	-.86	13.5
20	4000	440	6319	9.86	7478	42	216	1.22	-1.17	16.6
		480	6628	9.53	7742	40	195	1.10	-1.06	16.1
		520	6910	9.21	7984	38	177	1.00	-.96	15.5
		560	7165	8.91	8206	37	161	.91	-.88	15.0
20	4500	440	6865	10.78	8209	43	232	1.24	-1.20	18.2
		480	7213	10.44	8502	41	210	1.12	-1.08	17.6
		520	7531	10.11	8773	40	190	1.02	-.98	17.1
		560	7819	9.80	9022	38	174	.93	-.90	16.5
20	5000	480	7769	11.31	9239	43	224	1.14	-1.10	19.1
		520	8122	10.98	9538	41	204	1.04	-1.00	18.5
		560	8443	10.67	9813	40	186	.95	-.92	18.0
20	5500	480	8301	12.16	9957	44	237	1.16	-1.12	20.5
		520	8687	11.82	10282	42	216	1.06	-1.02	19.9
		560	9039	11.50	10581	41	198	.97	-.94	19.4

Table 6-27. (Sheet 8)

DIVE BOMBING TABLES
FOR
BDU-33A/B PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
20	6000	520	9229	12.63	11008	44	228	1.08	-1.04	21.3
		560	9612	12.31	11331	42	210	.99	-.96	20.8
20	6500	520	9750	13.43	11718	45	240	1.09	-1.06	22.7
		560	10162	13.10	12063	43	221	1.01	-.97	22.1
30	1000	360	1401	2.77	1722	39	100	1.64	-1.57	4.7
30	1500	360	1996	3.97	2497	41	124	1.67	-1.60	6.7
		400	2066	3.70	2553	40	107	1.48	-1.42	6.2
		440	2124	3.45	2600	39	94	1.33	-1.28	5.8
		480	2173	3.24	2640	38	83	1.21	-1.17	5.5
30	2000	360	2541	5.09	3234	44	146	1.69	-1.62	8.6
		400	2643	4.76	3315	42	126	1.51	-1.45	8.0
		440	2730	4.47	3384	40	111	1.35	-1.31	7.6
		480	2803	4.21	3444	39	98	1.23	-1.19	7.1
		520	2866	3.98	3495	38	88	1.13	-1.09	6.7
		560	2920	3.77	3539	37	79	1.04	-1.01	6.4
30	2500	360	3046	6.14	3941	46	166	1.72	-1.65	10.4
		400	3182	5.78	4047	44	144	1.53	-1.47	9.7
		440	3298	5.45	4139	42	127	1.37	-1.33	9.2
		480	3398	5.15	4218	41	112	1.25	-1.21	8.7
		520	3484	4.88	4288	40	100	1.14	-1.11	8.2
		560	3558	4.63	4349	39	90	1.06	-1.03	7.8
30	3000	360	3519	7.14	4624	48	184	1.73	-1.67	12.0
		400	3688	6.74	4754	46	161	1.55	-1.49	11.4
		440	3835	6.38	4869	44	142	1.39	-1.35	10.8
		480	3961	6.05	4969	42	126	1.27	-1.23	10.2
		520	4071	5.74	5057	41	113	1.16	-1.13	9.7
		560	4167	5.47	5135	40	102	1.07	-1.04	9.2
30	3500	360	3964	8.09	5288	49	201	1.75	-1.68	13.7
		400	4167	7.66	5442	47	176	1.56	-1.51	12.9
		440	4344	7.27	5578	45	156	1.41	-1.36	12.3
		480	4497	6.91	5699	44	139	1.28	-1.24	11.7
		520	4632	6.59	5806	42	125	1.18	-1.14	11.1
		560	4750	6.29	5900	41	113	1.09	-1.06	10.6
30	4000	360	4385	9.00	5936	51	217	1.76	-1.70	15.2
		400	4622	8.55	6112	49	191	1.58	-1.52	14.4
		440	4828	8.13	6270	47	170	1.43	-1.38	13.7
		480	5010	7.75	6411	45	151	1.30	-1.26	13.1
		520	5170	7.40	6536	44	136	1.19	-1.16	12.5
		560	5310	7.08	6648	42	123	1.10	-1.07	12.0
30	4500	360	4786	9.87	6569	52	232	1.78	-1.71	16.7
		400	5055	9.40	6768	50	205	1.59	-1.54	15.9
		440	5291	8.97	6946	48	182	1.44	-1.39	15.1
		480	5500	8.57	7106	46	163	1.31	-1.27	14.5
		520	5685	8.20	7251	45	147	1.21	-1.17	13.8
		560	5848	7.86	7379	44	133	1.12	-1.08	13.3
30	5000	400	5469	10.22	7410	51	218	1.60	-1.55	17.3
		440	5735	9.77	7609	49	195	1.45	-1.41	16.5
		480	5971	9.36	7788	47	175	1.33	-1.29	15.8
		520	6181	8.97	7950	46	157	1.22	-1.18	15.1
		560	6367	8.62	8095	45	143	1.13	-1.10	14.5
30	5500	400	5867	11.02	8042	52	231	1.61	-1.56	18.6
		440	6162	10.56	8259	50	206	1.46	-1.42	17.8
		480	6424	10.13	8457	48	185	1.34	-1.30	17.1
		520	6660	9.72	8637	47	168	1.23	-1.20	16.4
		560	6868	9.36	8798	46	153	1.14	-1.11	15.8

Table 6-27. (Sheet 9)

DIVE BOMBING TABLES
FOR
BDU-33A/B PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS		
								HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KT
30	6000	440	6573	11.32	8899	51	217	1.48	-1.43	19.1
		480	6862	10.88	9115	49	196	1.35	-1.31	18.4
		520	7122	10.46	9312	48	177	1.24	-1.21	17.7
		560	7352	10.08	9489	47	162	1.15	-1.12	17.0
30	6500	440	6969	12.07	9530	52	228	1.48	-1.44	20.4
		480	7285	11.61	9763	50	206	1.36	-1.32	19.6
		520	7569	11.18	9977	49	187	1.25	-1.22	18.9
		560	7821	10.79	10169	47	171	1.16	-1.13	18.2
30	7000	440	7353	12.79	10152	53	238	1.49	-1.45	21.6
		480	7694	12.32	10402	51	215	1.37	-1.33	20.8
		520	8002	11.89	10632	50	196	1.26	-1.23	20.1
		560	8276	11.49	10839	48	179	1.17	-1.14	19.4
30	7500	480	8091	13.02	11033	52	225	1.38	-1.34	22.0
		520	8423	12.58	11278	51	205	1.27	-1.24	21.2
		560	8717	12.17	11500	49	188	1.18	-1.15	20.5
30	8000	480	8477	13.71	11656	53	234	1.39	-1.35	23.1
		520	8831	13.26	11916	51	213	1.28	-1.25	22.4
		560	9147	12.85	12152	50	196	1.19	-1.16	21.7
30	8500	520	9229	13.92	12547	52	221	1.29	-1.25	23.5
		560	9565	13.51	12796	51	204	1.20	-1.17	22.8
30	9000	520	9617	14.58	13171	53	229	1.30	-1.26	24.6
		560	9972	14.16	13433	52	211	1.21	-1.18	23.9
30	9500	520	9995	15.22	13789	54	237	1.30	-1.27	25.7
		560	10369	14.80	14063	52	219	1.22	-1.19	25.0
30	10000	560	10756	15.43	14687	53	226	1.23	-1.19	26.0
45	2000	360	1623	4.02	2576	54	106	2.10	-2.03	6.8
45	2500	360	1972	4.91	3184	56	120	2.09	-2.03	8.3
		400	2037	4.55	3225	54	104	1.89	-1.83	7.7
		440	2090	4.24	3258	53	91	1.72	-1.67	7.2
45	3000	360	2305	5.77	3783	57	132	2.09	-2.02	9.7
		400	2387	5.37	3834	56	115	1.89	-1.83	9.1
		440	2456	5.02	3877	54	101	1.72	-1.68	8.5
		480	2514	4.70	3914	53	90	1.58	-1.54	7.9
45	3500	360	2622	6.60	4373	58	144	2.08	-2.02	11.1
		400	2724	6.16	4435	57	126	1.89	-1.83	10.4
		440	2810	5.77	4488	55	111	1.72	-1.68	9.7
		480	2881	5.42	4534	54	98	1.59	-1.55	9.2
		520	2943	5.11	4573	53	88	1.47	-1.43	8.6
45	4000	360	2927	7.40	4957	59	155	2.07	-2.01	12.5
		400	3048	6.93	5029	58	136	1.88	-1.83	11.7
		440	3150	6.51	5092	56	120	1.73	-1.68	11.0
		480	3237	6.13	5146	55	106	1.59	-1.55	10.3
		520	3311	5.79	5193	54	95	1.47	-1.44	9.8
		560	3375	5.48	5233	53	86	1.37	-1.34	9.3
45	4500	360	3220	8.18	5533	60	166	2.07	-2.01	13.8
		400	3361	7.68	5616	59	145	1.88	-1.83	13.0
		440	3480	7.23	5689	57	128	1.73	-1.68	12.2
		480	3582	6.82	5752	56	114	1.59	-1.55	11.5
		520	3670	6.45	5807	55	102	1.48	-1.44	10.9
		560	3744	6.12	5854	54	93	1.38	-1.35	10.3

Table 6-27. (Sheet 10)

DIVE BOMBING TABLES
FOR
BDU-33A/B PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
45	5000	360	3502	8.94	6104	61	176	2.06	-2.00	15.1
		400	3662	8.41	6198	59	154	1.88	-1.83	14.2
		440	3799	7.93	6280	58	137	1.73	-1.68	13.4
		480	3917	7.50	6352	57	122	1.59	-1.55	12.7
		520	4018	7.11	6415	56	109	1.48	-1.45	12.0
		560	4105	6.76	6469	55	99	1.38	-1.35	11.4
45	5500	360	3774	9.68	6670	62	185	2.05	-2.00	16.3
		400	3954	9.12	6774	60	163	1.88	-1.83	15.4
		440	4109	8.62	6865	59	145	1.73	-1.68	14.6
		480	4242	8.16	6946	57	129	1.60	-1.56	13.8
		520	4358	7.75	7017	56	116	1.48	-1.45	13.1
		560	4457	7.38	7079	55	105	1.39	-1.36	12.5
45	6000	360	4037	10.40	7232	63	194	2.05	-1.99	17.6
		400	4237	9.82	7345	61	172	1.87	-1.83	16.6
		440	4410	9.30	7446	59	153	1.72	-1.68	15.7
		480	4559	8.82	7536	58	137	1.60	-1.56	14.9
		520	4689	8.38	7615	57	123	1.49	-1.45	14.2
		560	4801	8.00	7684	56	111	1.39	-1.36	13.5
45	6500	360	4292	11.10	7789	63	203	2.04	-1.99	18.7
		400	4512	10.51	7913	62	180	1.87	-1.82	17.7
		440	4702	9.96	8023	60	160	1.72	-1.68	16.8
		480	4868	9.46	8121	59	144	1.60	-1.56	16.0
		520	5012	9.01	8208	58	129	1.49	-1.45	15.2
		560	5136	8.61	8284	57	118	1.39	-1.36	14.5
45	7000	360	4540	11.79	8343	64	211	2.03	-1.98	19.9
		400	4779	11.18	8476	62	187	1.87	-1.82	18.9
		440	4987	10.61	8595	61	167	1.72	-1.68	17.9
		480	5168	10.10	8701	59	150	1.60	-1.56	17.0
		520	5327	9.62	8796	58	136	1.49	-1.46	16.2
		560	5464	9.21	8880	57	123	1.40	-1.37	15.5
45	7500	360	4780	12.47	8894	65	219	2.03	-1.97	21.0
		400	5039	11.83	9035	63	195	1.86	-1.82	20.0
		440	5264	11.25	9163	61	174	1.72	-1.68	19.0
		480	5462	10.72	9278	60	157	1.60	-1.56	18.1
		520	5635	10.23	9381	59	142	1.49	-1.46	17.3
		560	5784	9.81	9471	58	129	1.40	-1.37	16.6
45	8000	360	5014	13.13	9441	65	226	2.02	-1.97	22.2
		400	5292	12.48	9592	64	202	1.86	-1.81	21.1
		440	5535	11.88	9728	62	181	1.72	-1.68	20.1
		480	5748	11.33	9851	61	163	1.60	-1.56	19.1
		520	5936	10.83	9962	59	148	1.49	-1.46	18.3
		560	6098	10.40	10059	58	135	1.40	-1.38	17.5
45	8500	360	5242	13.78	9986	66	234	2.01	-1.96	23.3
		400	5539	13.11	10145	64	209	1.85	-1.81	22.1
		440	5799	12.50	10290	63	187	1.72	-1.68	21.1
		480	6029	11.94	10421	61	169	1.60	-1.56	20.2
		520	6231	11.42	10539	60	154	1.49	-1.46	19.3
		560	6405	10.98	10643	59	140	1.41	-1.38	18.5
45	9000	400	5780	13.74	10696	65	215	1.85	-1.81	23.2
		440	6057	13.11	10849	63	194	1.71	-1.68	22.1
		480	6303	12.54	10988	62	175	1.60	-1.56	21.2
		520	6519	12.01	11113	60	159	1.50	-1.46	20.3
		560	6705	11.56	11223	59	146	1.41	-1.38	19.5
45	9500	400	6015	14.35	11244	65	222	1.84	-1.80	24.2
		440	6310	13.71	11405	64	200	1.71	-1.67	23.1
		480	6571	13.12	11551	62	181	1.60	-1.56	22.2
		520	6802	12.59	11684	61	165	1.50	-1.47	21.2
		560	7000	12.13	11800	60	151	1.41	-1.38	20.5

Table 6-27. (Sheet 11)

DIVE BOMBING TABLES
FOR
BDU-33A/B PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT	MILS/KNOT	FT/KT
45	10000	400	6245	14.95	11790	66	228	1.84	-1.80	25.2
		440	6557	14.30	11958	64	206	1.71	-1.67	24.1
		480	6834	13.70	12112	63	187	1.60	-1.56	23.1
		520	7079	13.16	12252	62	170	1.50	-1.47	22.2
		560	7289	12.70	12374	60	156	1.42	-1.39	21.4
60	3000	360	1381	5.01	3303	68	94	2.36	-2.31	8.4
60	3500	360	1580	5.75	3840	69	101	2.34	-2.29	9.7
		400	1634	5.33	3863	68	89	2.14	-2.10	9.0
60	4000	360	1772	6.48	4375	69	108	2.32	-2.27	10.9
		400	1837	6.02	4401	68	95	2.13	-2.09	10.2
		440	1890	5.61	4424	67	84	1.96	-1.93	9.5
60	4500	360	1958	7.20	4908	70	115	2.30	-2.26	12.1
		400	2034	6.69	4938	69	101	2.11	-2.07	11.3
		440	2096	6.25	4964	68	89	1.95	-1.92	10.6
60	5000	360	2138	7.89	5438	71	121	2.28	-2.24	13.3
		400	2225	7.36	5473	69	106	2.10	-2.06	12.4
		440	2297	6.89	5503	68	94	1.94	-1.91	11.6
		480	2359	6.46	5528	68	84	1.81	-1.78	10.9
60	5500	360	2313	8.57	5967	71	127	2.26	-2.22	14.5
		400	2411	8.01	6005	70	112	2.09	-2.05	13.5
		440	2494	7.51	6039	69	99	1.93	-1.90	12.7
		480	2563	7.06	6068	68	89	1.80	-1.77	11.9
		520	2623	6.66	6093	67	80	1.68	-1.66	11.2
60	6000	360	2483	9.24	6493	72	132	2.25	-2.21	15.6
		400	2592	8.65	6536	70	117	2.07	-2.04	14.6
		440	2685	8.12	6573	69	104	1.93	-1.89	13.7
		480	2764	7.65	6606	68	93	1.79	-1.77	12.9
		520	2831	7.23	6634	68	84	1.68	-1.65	12.2
		560	2888	6.86	6659	67	76	1.58	-1.56	11.6
60	6500	360	2648	9.90	7019	72	138	2.23	-2.19	16.7
		400	2769	9.28	7065	71	122	2.06	-2.03	15.7
		440	2872	8.73	7106	70	108	1.92	-1.89	14.7
		480	2960	8.23	7142	69	97	1.79	-1.76	13.9
		520	3035	7.78	7174	68	88	1.68	-1.65	13.1
		560	3099	7.40	7201	67	80	1.58	-1.56	12.5
60	7000	360	2809	10.54	7543	72	143	2.21	-2.17	17.8
		400	2942	9.90	7593	71	127	2.05	-2.02	16.7
		440	3055	9.32	7638	70	113	1.91	-1.88	15.7
		480	3152	8.80	7677	69	101	1.78	-1.76	14.9
		520	3235	8.34	7711	68	91	1.67	-1.65	14.1
		560	3306	7.93	7741	68	83	1.58	-1.56	13.4
60	7500	360	2966	11.17	8065	73	148	2.20	-2.16	18.9
		400	3111	10.51	8119	72	131	2.04	-2.01	17.7
		440	3234	9.91	8168	71	117	1.90	-1.87	16.7
		480	3340	9.37	8210	70	105	1.78	-1.75	15.8
		520	3432	8.89	8248	69	95	1.67	-1.64	15.0
		560	3509	8.47	8280	68	87	1.58	-1.56	14.3
60	8000	360	3119	11.79	8587	73	153	2.18	-2.15	19.9
		400	3275	11.11	8645	72	136	2.03	-1.99	18.7
		440	3409	10.49	8696	71	122	1.89	-1.86	17.7
		480	3525	9.93	8742	70	109	1.77	-1.74	16.8
		520	3625	9.43	8783	69	99	1.67	-1.64	15.9
		560	3709	9.00	8818	68	90	1.58	-1.55	15.2

Table 6-27. (Sheet 12)

DIVE BOMBING TABLES
FOR
BDU-33A/B PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KT
60	8500	360	3269	12.40	9107	74	157	2.17	-2.13	20.9
		400	3437	11.70	9168	72	140	2.02	-1.98	19.7
		440	3581	11.06	9224	71	126	1.88	-1.85	18.7
		480	3706	10.49	9273	70	113	1.77	-1.74	17.7
		520	3814	9.97	9316	70	103	1.66	-1.64	16.8
		560	3905	9.52	9354	69	94	1.58	-1.55	16.1
60	9000	360	3415	13.00	9626	74	162	2.15	-2.12	21.9
		400	3594	12.28	9691	73	144	2.01	-1.97	20.7
		440	3749	11.63	9750	72	130	1.88	-1.85	19.6
		480	3884	11.03	9802	71	117	1.76	-1.73	18.6
		520	4000	10.50	9849	70	106	1.66	-1.64	17.7
		560	4098	10.05	9889	69	97	1.57	-1.55	17.0
60	9500	350	3558	13.60	10144	74	166	2.14	-2.11	22.9
		400	3749	12.86	10213	73	148	2.00	-1.96	21.7
		440	3915	12.19	10275	72	133	1.87	-1.84	20.6
		480	4058	11.58	10331	71	121	1.76	-1.73	19.5
		520	4183	11.03	10380	70	109	1.66	-1.63	18.6
		560	4288	10.57	10423	69	100	1.57	-1.55	17.8
60	10000	360	3698	14.18	10662	75	170	2.13	-2.09	23.9
		400	3901	13.43	10734	73	152	1.99	-1.96	22.7
		440	4077	12.74	10799	72	137	1.86	-1.83	21.5
		480	4230	12.11	10858	71	124	1.75	-1.72	20.4
		520	4363	11.55	10910	71	113	1.65	-1.63	19.5
		560	4474	11.09	10955	70	103	1.57	-1.55	18.7

Table 6-28. (Sheet 1)

LEVEL BOMBING TABLES
FOR
BDU-33D/B PRACTICE BOMB WITH SUU-20 DISPENSER

RELEASE ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FALL SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CRAB FT/KNOT
50	360	731	1.21	733	6	76	.22	-.21	2.0	.0
	400	811	1.21	813	5	69	.18	-.17	2.0	.0
	440	892	1.22	894	5	62	.15	-.14	2.1	.0
	480	972	1.22	974	4	57	.12	-.12	2.1	.0
	520	1052	1.22	1054	4	53	.11	-.10	2.1	.0
	560	1132	1.22	1134	4	49	.09	-.09	2.1	.0
75	360	956	1.59	959	7	84	.25	-.23	2.7	.0
	400	1061	1.59	1064	6	76	.20	-.19	2.7	.0
	440	1166	1.59	1169	6	69	.16	-.16	2.7	.0
	480	1270	1.60	1273	5	63	.14	-.13	2.7	.0
	520	1375	1.60	1377	5	59	.12	-.11	2.7	.1
	560	1479	1.60	1481	5	54	.10	-.10	2.7	.1
100	360	1148	1.92	1153	8	92	.27	-.25	3.2	.0
	400	1274	1.92	1278	7	83	.22	-.21	3.2	.1
	440	1399	1.92	1403	7	75	.18	-.17	3.2	.1
	480	1525	1.92	1528	6	69	.15	-.14	3.2	.1
	520	1649	1.92	1653	6	64	.13	-.12	3.2	.1
	560	1774	1.93	1777	5	59	.11	-.11	3.3	.1
125	360	1318	2.20	1325	9	99	.29	-.27	3.7	.1
	400	1462	2.21	1468	8	89	.23	-.22	3.7	.1
	440	1606	2.21	1612	7	81	.19	-.18	3.7	.1
	480	1750	2.21	1755	7	75	.16	-.16	3.7	.1
	520	1893	2.21	1897	6	69	.14	-.13	3.7	.1
	560	2035	2.22	2039	6	64	.12	-.12	3.7	.1
150	360	1473	2.47	1481	10	106	.31	-.29	4.2	.1
	400	1633	2.47	1641	9	95	.25	-.24	4.2	.1
	440	1794	2.47	1801	8	87	.21	-.20	4.2	.1
	480	1953	2.48	1960	7	80	.17	-.17	4.2	.1
	520	2113	2.48	2118	7	74	.15	-.14	4.2	.1
	560	2271	2.48	2276	6	68	.13	-.12	4.2	.1
200	360	1748	2.94	1759	11	117	.34	-.32	5.0	.1
	400	1938	2.94	1948	10	106	.28	-.26	5.0	.1
	440	2127	2.95	2137	9	97	.23	-.22	5.0	.1
	480	2316	2.95	2325	8	89	.19	-.19	5.0	.2
	520	2503	2.95	2512	8	82	.17	-.16	5.0	.2
	560	2690	2.96	2698	7	76	.14	-.14	5.0	.2
250	360	1990	3.35	2006	12	128	.37	-.35	5.7	.1
	400	2206	3.36	2220	11	116	.30	-.29	5.7	.2
	440	2420	3.36	2434	10	105	.25	-.24	5.7	.2
	480	2634	3.37	2647	9	97	.21	-.20	5.7	.2
	520	2846	3.37	2858	9	90	.18	-.18	5.7	.2
	560	3058	3.38	3069	8	83	.16	-.15	5.7	.2
300	360	2209	3.73	2229	13	138	.40	-.38	6.3	.2
	400	2447	3.74	2466	12	125	.33	-.31	6.3	.2
	440	2685	3.75	2703	11	114	.27	-.26	6.3	.2
	480	2920	3.75	2936	10	104	.23	-.22	6.3	.2
	520	3157	3.76	3171	10	97	.20	-.19	6.3	.3
	560	3389	3.77	3403	9	90	.17	-.17	6.4	.3
350	360	2409	4.08	2435	15	147	.43	-.40	6.9	.2
	400	2670	4.09	2693	13	133	.35	-.33	6.9	.2
	440	2928	4.10	2950	12	121	.29	-.28	6.9	.3
	480	3185	4.10	3205	11	111	.25	-.24	6.9	.3
	520	3440	4.11	3459	10	103	.21	-.20	6.9	.3
	560	3693	4.12	3710	10	96	.18	-.18	7.0	.4

Table 6-28. (Sheet 2)

LEVEL BOMBING TABLES
FOR
BDU-33D/B PRACTICE BOMB WITH SUU-20 DISPENSER

RELEASE ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FALL SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CRAB FT/KNOT
400	360	2596	4.41	2627	15	155	.45	-.43	7.4	.2
	400	2876	4.42	2904	14	140	.37	-.35	7.5	.3
	440	3154	4.43	3180	13	128	.31	-.29	7.5	.3
	480	3430	4.43	3453	12	118	.26	-.25	7.5	.3
	520	3704	4.44	3726	11	109	.22	-.22	7.5	.4
	560	3975	4.45	3995	10	102	.20	-.19	7.5	.4
450	360	2771	4.72	2808	16	163	.48	-.45	8.0	.3
	400	3069	4.73	3102	15	148	.39	-.37	8.0	.3
	440	3365	4.73	3396	14	135	.32	-.31	8.0	.3
	480	3659	4.75	3687	13	124	.28	-.26	8.0	.4
	520	3950	4.76	3976	12	115	.24	-.23	8.0	.4
	560	4238	4.77	4262	11	107	.21	-.20	8.0	.5
500	360	2936	5.01	2979	17	171	.50	-.47	8.5	.3
	400	3252	5.02	3290	16	155	.41	-.39	8.5	.3
	440	3565	5.03	3600	14	141	.34	-.32	8.5	.4
	480	3875	5.04	3907	13	130	.29	-.28	8.5	.4
	520	4182	5.05	4212	12	120	.25	-.24	8.5	.5
	560	4486	5.06	4515	12	112	.22	-.21	8.5	.5
600	360	3243	5.55	3299	19	185	.54	-.51	9.4	.4
	400	3590	5.56	3640	17	167	.44	-.42	9.4	.4
	440	3934	5.58	3980	16	153	.37	-.35	9.4	.5
	480	4275	5.59	4317	15	141	.31	-.30	9.4	.5
	520	4612	5.60	4651	14	131	.27	-.26	9.5	.6
	560	4945	5.62	4982	13	122	.24	-.23	9.5	.7
700	360	3524	6.05	3593	20	198	.58	-.55	10.2	.4
	400	3900	6.07	3962	19	179	.47	-.45	10.2	.5
	440	4272	6.08	4329	17	164	.40	-.38	10.3	.6
	480	4640	6.10	4693	16	151	.34	-.32	10.3	.6
	520	5005	6.11	5054	15	140	.29	-.28	10.3	.7
	560	5364	6.13	5410	14	131	.25	-.25	10.3	.8
800	360	3784	6.52	3869	22	210	.61	-.58	11.0	.5
	400	4187	6.54	4263	20	190	.50	-.48	11.0	.6
	440	4585	6.55	4655	18	174	.42	-.40	11.1	.6
	480	4979	6.57	5043	17	161	.36	-.34	11.1	.7
	520	5368	6.59	5428	16	149	.31	-.30	11.1	.8
	560	5752	6.61	5808	15	139	.27	-.26	11.2	.9
900	360	4028	6.96	4128	23	222	.65	-.61	11.8	.6
	400	4455	6.98	4546	21	201	.53	-.51	11.8	.6
	440	4878	7.00	4961	19	184	.45	-.43	11.8	.7
	480	5295	7.02	5372	18	170	.38	-.36	11.8	.8
	520	5708	7.04	5779	17	158	.33	-.32	11.9	.9
	560	6114	7.06	6180	16	147	.29	-.28	11.9	1.0
1000	360	4258	7.38	4374	24	232	.68	-.64	12.5	.6
	400	4708	7.40	4814	22	211	.56	-.53	12.5	.7
	440	5154	7.42	5250	20	193	.47	-.45	12.5	.8
	480	5593	7.44	5682	19	178	.40	-.38	12.6	.9
	520	6027	7.46	6110	18	165	.35	-.33	12.6	1.0
	560	6454	7.49	6532	17	155	.30	-.29	12.6	1.1
1100	360	4476	7.78	4610	25	243	.71	-.67	13.1	.7
	400	4948	7.80	5070	23	220	.58	-.55	13.2	.8
	440	5415	7.82	5526	21	202	.49	-.47	13.2	.9
	480	5875	7.85	5978	20	186	.42	-.40	13.2	1.0
	520	6329	7.87	6425	19	173	.36	-.35	13.3	1.1
	560	6776	7.89	6865	18	162	.32	-.31	13.3	1.2

Table 6-28. (Sheet 3)

LEVEL BOMBING TABLES
FOR
BDU-33D/B PRACTICE BOMB WITH SUU-20 DISPENSER

RELEASE ALT ABOVE TGT FT	RELEASE TAS KTS	BOMB RANGE FT	TIME OF FALL SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT	CRAB
1200	360	4684	8.16	4836	26	252	.73	-.69	13.8	.8
	400	5177	8.18	5315	24	229	.61	-.58	13.8	.9
	440	5664	8.21	5790	22	210	.51	-.49	13.9	1.0
	480	6144	8.23	6260	21	194	.44	-.42	13.9	1.1
	520	6617	8.26	6725	20	180	.38	-.36	13.9	1.2
	560	7082	8.29	7183	19	169	.33	-.32	14.0	1.3
1300	360	4882	8.53	5053	27	262	.76	-.72	14.4	.8
	400	5395	8.55	5550	25	238	.63	-.60	14.4	.9
	440	5901	8.58	6043	23	218	.53	-.51	14.5	1.1
	480	6400	8.60	6531	22	201	.46	-.44	14.5	1.2
	520	6892	8.63	7014	21	187	.40	-.38	14.6	1.3
	560	7374	8.66	7488	19	175	.35	-.33	14.6	1.4
1400	360	5073	8.88	5263	28	271	.78	-.74	15.0	.9
	400	5605	8.91	5777	26	246	.65	-.62	15.0	1.0
	440	6129	8.93	6288	24	226	.55	-.53	15.1	1.1
	480	6646	8.96	6792	23	209	.47	-.45	15.1	1.3
	520	7155	8.99	7291	21	194	.41	-.39	15.2	1.4
	560	7654	9.02	7781	20	182	.36	-.35	15.2	1.6
1500	360	5256	9.22	5467	29	279	.81	-.77	15.6	1.0
	400	5806	9.25	5998	27	254	.67	-.64	15.6	1.1
	440	6349	9.28	6524	25	233	.57	-.54	15.7	1.2
	480	6882	9.31	7044	23	216	.49	-.47	15.7	1.4
	520	7407	9.34	7558	22	201	.43	-.41	15.8	1.5
	560	7923	9.37	8064	21	188	.37	-.36	15.8	1.7
1600	360	5433	9.55	5664	30	288	.83	-.79	16.1	1.0
	400	6001	9.58	6211	28	262	.69	-.66	16.2	1.2
	440	6560	9.61	6753	26	240	.59	-.56	16.2	1.3
	480	7110	9.65	7288	24	222	.50	-.48	16.3	1.5
	520	7651	9.68	7817	23	207	.44	-.42	16.3	1.6
	560	8181	9.71	8337	22	194	.39	-.37	16.4	1.8
1700	360	5605	9.87	5857	31	296	.85	-.81	16.7	1.1
	400	6189	9.91	6418	29	269	.71	-.68	16.7	1.2
	440	6764	9.94	6975	27	247	.60	-.58	16.8	1.4
	480	7330	9.97	7525	25	229	.52	-.50	16.8	1.6
	520	7886	10.01	8068	24	213	.45	-.43	16.9	1.7
	560	8431	10.04	8601	22	200	.40	-.38	17.0	1.9
1800	360	5770	10.19	6045	32	304	.88	-.83	17.2	1.2
	400	6370	10.22	6620	29	277	.73	-.69	17.2	1.3
	440	6962	10.25	7191	27	254	.62	-.59	17.3	1.5
	480	7543	10.29	7755	26	235	.53	-.51	17.4	1.7
	520	8114	10.33	8312	24	219	.47	-.45	17.4	1.8
	560	8673	10.36	8858	23	205	.41	-.40	17.5	2.0
1900	360	5931	10.49	6228	32	311	.90	-.85	17.7	1.2
	400	6547	10.53	6818	30	284	.75	-.71	17.8	1.4
	440	7154	10.56	7402	28	261	.64	-.61	17.8	1.6
	480	7749	10.60	7979	26	241	.55	-.53	17.9	1.7
	520	8334	10.64	8549	25	225	.48	-.46	18.0	1.9
	560	8907	10.68	9108	24	211	.42	-.41	18.0	2.1
2000	360	6087	10.79	6408	33	319	.92	-.87	18.2	1.3
	400	6719	10.82	7010	31	290	.77	-.73	18.3	1.5
	440	7340	10.86	7608	29	267	.65	-.62	18.3	1.6
	480	7950	10.90	8198	27	247	.56	-.54	18.4	1.8
	520	8549	10.94	8780	26	231	.49	-.47	18.5	2.0
	560	9134	10.98	9351	24	216	.43	-.42	18.5	2.2

Table 6-28. (Sheet 4)

DIVE BOMBING TABLES
FOR
BDU-33D/B PRACTICE BOMB WITH SUU-20 DISPENSER

ANG	RELEASE ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FALL	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	GROSS DRIFT
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KNOT
-5	200	360	1140	1.92	1158	13	92	.52	-.49	3.2
		400	1214	1.84	1231	12	81	.44	-.41	3.1
		440	1281	1.77	1297	11	72	.38	-.36	3.0
		480	1341	1.70	1357	10	65	.33	-.32	2.9
		520	1397	1.63	1412	10	59	.29	-.28	2.8
		560	1447	1.57	1462	9	54	.26	-.25	2.7
-5	250	360	1351	2.28	1374	14	100	.54	-.51	3.8
		400	1443	2.19	1465	13	88	.46	-.43	3.7
		440	1526	2.11	1547	12	79	.39	-.38	3.6
		480	1603	2.04	1623	11	71	.34	-.33	3.4
		520	1674	1.96	1693	11	64	.30	-.29	3.3
		560	1738	1.90	1757	10	59	.27	-.26	3.2
-5	300	360	1546	2.61	1575	15	108	.56	-.53	4.4
		400	1655	2.52	1682	14	96	.47	-.45	4.3
		440	1755	2.43	1781	13	85	.41	-.39	4.1
		480	1847	2.35	1872	12	77	.36	-.34	4.0
		520	1933	2.28	1956	11	70	.31	-.30	3.8
		560	2011	2.21	2034	11	64	.28	-.27	3.7
-5	350	360	1728	2.92	1764	16	116	.58	-.55	4.9
		400	1853	2.83	1887	15	103	.49	-.47	4.8
		440	1970	2.74	2001	13	92	.42	-.40	4.6
		480	2077	2.65	2107	13	82	.37	-.35	4.5
		520	2177	2.57	2205	12	75	.33	-.31	4.3
		560	2269	2.50	2296	11	68	.29	-.28	4.2
-5	400	360	1899	3.22	1942	17	124	.61	-.57	5.4
		400	2042	3.12	2081	15	109	.51	-.48	5.3
		440	2172	3.03	2209	14	98	.44	-.42	5.1
		480	2294	2.94	2330	13	88	.38	-.37	5.0
		520	2408	2.86	2441	13	80	.34	-.32	4.8
		560	2513	2.78	2546	12	73	.30	-.29	4.7
-5	450	360	2062	3.50	2111	18	131	.63	-.59	5.9
		400	2219	3.40	2264	16	116	.53	-.50	5.7
		440	2365	3.31	2408	15	103	.45	-.43	5.6
		480	2501	3.21	2542	14	93	.39	-.38	5.4
		520	2627	3.12	2665	13	85	.35	-.33	5.3
		560	2746	3.04	2784	12	77	.31	-.30	5.1
-5	500	360	2217	3.77	2273	18	137	.64	-.61	6.4
		400	2388	3.67	2441	17	122	.54	-.52	6.2
		440	2549	3.57	2598	16	109	.46	-.44	6.0
		480	2698	3.48	2745	15	98	.40	-.39	5.9
		520	2839	3.39	2883	14	89	.36	-.34	5.7
		560	2969	3.30	3012	13	82	.32	-.31	5.6
-5	1000	360	3485	6.03	3626	25	194	.80	-.76	10.2
		400	3780	5.91	3911	23	173	.68	-.64	10.0
		440	4061	5.80	4183	21	156	.58	-.55	9.8
		480	4327	5.70	4442	20	141	.50	-.48	9.6
		520	4580	5.60	4688	18	129	.44	-.43	9.4
		560	4820	5.50	4923	17	119	.39	-.38	9.3
-5	1500	400	4856	7.70	5083	27	214	.78	-.74	13.0
		440	5231	7.59	5442	25	193	.67	-.64	12.8
		480	5589	7.49	5787	24	176	.58	-.56	12.6
		520	5931	7.38	6119	22	162	.51	-.49	12.5
		560	6257	7.29	6435	21	149	.46	-.44	12.3

Table 6-28. (Sheet 5)

DIVE BOMBING TABLES
FOR
BDU-33D/B PRACTICE BOMB WITH SUU-20 DISPENSER

ANG DEG	RELEASE ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FALL SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT
-5	2000	480	6648	9.03	6942	27	206	.65	-.62	15.2
		520	7065	8.93	7343	26	190	.57	-.55	15.1
		560	7463	8.83	7727	24	175	.51	-.49	14.9
-5	2500	520	8055	10.31	8434	28	214	.63	-.60	17.4
		560	8516	10.22	8876	27	199	.56	-.54	17.3
-10	300	360	1127	1.92	1167	18	91	.76	-.72	3.2
		400	1179	1.81	1217	17	79	.65	-.62	3.1
		440	1224	1.71	1261	16	70	.57	-.55	2.9
		480	1263	1.62	1299	15	63	.51	-.49	2.7
		520	1297	1.54	1332	15	57	.46	-.44	2.6
-10	350	360	1280	2.19	1328	18	97	.77	-.73	3.7
		400	1342	2.07	1388	17	85	.67	-.63	3.5
		440	1396	1.96	1440	16	75	.58	-.56	3.3
		480	1444	1.86	1486	16	67	.52	-.50	3.1
		520	1486	1.76	1527	15	60	.47	-.45	3.0
		560	1522	1.68	1563	15	55	.42	-.41	2.8
-10	400	360	1427	2.44	1482	19	103	.79	-.75	4.1
		400	1499	2.31	1552	18	90	.68	-.65	3.9
		440	1563	2.19	1614	17	80	.59	-.57	3.7
		480	1619	2.09	1668	15	71	.53	-.51	3.5
		520	1668	1.99	1716	16	64	.47	-.46	3.4
		560	1712	1.89	1758	15	58	.43	-.41	3.2
-10	450	360	1568	2.69	1631	20	109	.80	-.76	4.5
		400	1650	2.55	1711	19	95	.69	-.66	4.3
		440	1723	2.42	1782	18	84	.60	-.58	4.1
		480	1788	2.31	1844	17	75	.54	-.51	3.9
		520	1845	2.20	1900	16	68	.48	-.46	3.7
		560	1896	2.10	1949	15	61	.44	-.42	3.6
-10	500	360	1703	2.93	1775	21	115	.82	-.78	4.9
		400	1796	2.78	1865	19	100	.70	-.67	4.7
		440	1879	2.65	1945	18	89	.61	-.59	4.5
		480	1952	2.53	2015	17	79	.54	-.52	4.3
		520	2017	2.41	2078	16	71	.49	-.47	4.1
		560	2075	2.31	2135	16	65	.44	-.43	3.9
-10	1000	360	2856	4.98	3027	25	164	.95	-.90	8.4
		400	3046	4.79	3207	24	145	.81	-.78	8.1
		440	3219	4.62	3371	23	129	.71	-.68	7.8
		480	3376	4.46	3522	21	115	.62	-.60	7.5
		520	3520	4.30	3660	20	104	.56	-.54	7.3
		560	3650	4.16	3785	19	94	.50	-.49	7.0
-10	1500	360	3779	6.67	4067	31	205	1.05	-1.00	11.2
		400	4053	6.46	4322	28	181	.90	-.86	10.9
		440	4306	6.27	4560	27	162	.79	-.75	10.6
		480	4540	6.09	4782	25	146	.69	-.66	10.3
		520	4756	5.91	4987	24	132	.62	-.59	10.0
		560	4955	5.75	5177	23	121	.56	-.54	9.7
-10	2000	400	4915	7.92	5307	32	213	.98	-.93	13.4
		440	5239	7.72	5608	30	191	.85	-.82	13.0
		480	5541	7.53	5891	28	173	.75	-.72	12.7
		520	5822	7.35	6157	27	157	.67	-.65	12.4
		560	6084	7.17	6404	25	144	.60	-.58	12.1

Table 6-28. (Sheet 6)

DIVE BOMBING TABLES
FOR
BDU-33D/B PRACTICE BOMB WITH SUU-20 DISPENSER

ANG DEG	RELEASE ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FALL SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT
-10	2500	440	6065	9.04	6561	33	218	.91	-.87	15.3
		480	6428	8.84	6898	31	197	.80	-.77	14.9
		520	6769	8.65	7216	29	180	.72	-.69	14.6
		560	7087	8.47	7516	28	165	.65	-.62	14.3
-10	3000	480	7231	10.05	7830	33	220	.85	-.82	17.0
		520	7626	9.86	8196	32	201	.75	-.73	16.6
		560	7996	9.68	8541	30	185	.69	-.66	16.3
-10	3500	520	8413	10.99	9113	34	220	.80	-.77	18.6
		560	8831	10.81	9500	32	204	.72	-.70	18.2
-10	4000	560	9605	11.88	10405	34	221	.76	-.73	20.0
-15	400	360	1108	1.93	1179	23	90	.99	-.94	3.3
		400	1148	1.80	1216	22	78	.86	-.82	3.0
		440	1182	1.69	1248	21	69	.76	-.73	2.8
-15	450	360	1227	2.14	1307	23	94	1.00	-.95	3.6
		400	1273	2.00	1351	22	82	.87	-.83	3.4
		440	1313	1.88	1388	21	73	.77	-.74	3.2
		480	1346	1.77	1420	20	65	.69	-.67	3.0
-15	500	360	1342	2.35	1433	24	99	1.01	-.96	4.0
		400	1395	2.20	1483	23	86	.88	-.84	3.7
		440	1441	2.07	1525	22	76	.78	-.75	3.5
		480	1480	1.95	1562	21	68	.70	-.67	3.3
-15	1000	360	2359	4.18	2562	29	142	1.11	-1.06	7.1
		400	2481	3.97	2676	27	124	.97	-.92	6.7
		440	2589	3.77	2776	25	109	.85	-.82	6.4
		480	2684	3.59	2865	24	97	.76	-.73	6.1
		520	2767	3.42	2943	23	87	.69	-.66	5.8
		560	2841	3.27	3013	22	79	.62	-.60	5.5
-15	1500	360	3204	5.74	3538	33	178	1.20	-1.14	9.7
		400	3394	5.49	3712	31	156	1.04	-.99	9.3
		440	3565	5.26	3868	29	138	.92	-.88	8.9
		480	3717	5.04	4009	27	123	.82	-.78	8.5
		520	3853	4.84	4135	26	111	.73	-.71	8.2
		560	3976	4.65	4250	25	100	.67	-.65	7.9
-15	2000	360	3940	7.13	4419	36	210	1.27	-1.21	12.0
		400	4193	6.86	4646	34	185	1.10	-1.05	11.6
		440	4423	6.60	4854	32	164	.97	-.93	11.1
		480	4630	6.36	5044	30	147	.87	-.83	10.7
		520	4819	6.14	5218	29	133	.78	-.75	10.4
		560	4989	5.93	5376	27	121	.71	-.68	10.0
-15	2500	360	4598	8.40	5234	39	238	1.33	-1.27	14.2
		400	4910	8.11	5510	36	210	1.16	-1.11	13.7
		440	5195	7.84	5766	34	188	1.02	-.98	13.2
		480	5455	7.58	6001	32	169	.91	-.87	12.8
		520	5693	7.34	6218	31	153	.82	-.79	12.4
		560	5910	7.11	6417	30	139	.74	-.72	12.0
-15	3000	400	5563	9.27	6321	39	234	1.21	-1.15	15.6
		440	5900	8.99	6620	37	210	1.06	-1.02	15.2
		480	6210	8.72	6897	35	189	.95	-.91	14.7
		520	6495	8.47	7155	33	172	.86	-.83	14.3
		560	6756	8.23	7392	32	157	.78	-.75	13.9

Table 6-28. (Sheet 7)

DIVE BOMBING TABLES
FOR
BDU-33D/B PRACTICE BOMB WITH SUU-20 DISPENSER

ANG DEG	RELEASE ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FALL SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT
-15	3500	440	6553	10.07	7429	39	230	1.10	-1.06	17.0
		480	6909	9.80	7745	37	208	.99	-.95	16.5
		520	7238	9.54	8040	35	189	.89	-.86	16.1
		560	7541	9.29	8314	34	174	.81	-.78	15.7
-15	4000	480	7562	10.82	8555	39	226	1.02	-.98	18.3
		520	7933	10.55	8885	37	206	.92	-.89	17.8
		560	8276	10.30	9192	35	189	.84	-.81	17.4
-15	4500	520	8587	11.52	9695	38	222	.95	-.92	19.4
		560	8967	11.27	10034	37	204	.87	-.84	19.0
-15	5000	560	9622	12.20	10844	38	218	.89	-.86	20.6
-20	1000	360	1966	3.58	2206	32	124	1.29	-1.22	6.0
		400	2048	3.36	2279	30	108	1.13	-1.08	5.7
		440	2117	3.16	2342	29	95	1.00	-.96	5.3
		480	2177	2.98	2396	28	84	.90	-.87	5.0
		520	2228	2.82	2442	27	75	.82	-.79	4.8
		560	2272	2.67	2483	26	68	.75	-.73	4.5
-20	1500	360	2726	5.02	3111	35	156	1.35	-1.29	8.5
		400	2859	4.74	3229	33	136	1.19	-1.13	8.0
		440	2975	4.50	3332	32	120	1.05	-1.01	7.6
		480	3076	4.27	3423	30	106	.95	-.91	7.2
		520	3165	4.06	3503	29	95	.86	-.83	6.9
		560	3243	3.87	3573	28	86	.79	-.76	6.5
-20	2000	360	3400	6.31	3945	38	184	1.41	-1.35	10.7
		400	3585	6.01	4105	36	161	1.24	-1.18	10.1
		440	3748	5.73	4248	34	143	1.10	-1.06	9.7
		480	3892	5.46	4376	33	127	.99	-.95	9.2
		520	4019	5.22	4490	31	114	.90	-.86	8.8
		560	4132	5.00	4591	30	103	.82	-.79	8.4
-20	2500	360	4010	7.51	4726	41	210	1.46	-1.39	12.7
		400	4245	7.18	4927	38	185	1.28	-1.23	12.1
		440	4454	6.87	5108	36	164	1.14	-1.09	11.6
		480	4640	6.59	5271	35	146	1.02	-.99	11.1
		520	4807	6.32	5419	33	132	.93	-.90	10.7
		560	4956	6.07	5551	32	119	.85	-.82	10.3
-20	3000	360	4571	8.63	5468	43	233	1.50	-1.43	14.6
		400	4853	8.28	5706	41	206	1.32	-1.27	14.0
		440	5106	7.95	5923	39	183	1.17	-1.13	13.4
		480	5334	7.65	6120	37	164	1.06	-1.02	12.9
		520	5539	7.36	6300	35	148	.96	-.93	12.4
		560	5724	7.10	6463	34	135	.88	-.85	12.0
-20	3500	360	5091	9.68	6178	45	254	1.54	-1.47	16.3
		400	5419	9.32	6451	43	225	1.35	-1.30	15.7
		440	5715	8.98	6702	40	201	1.21	-1.16	15.1
		480	5983	8.66	6932	39	181	1.09	-1.05	14.6
		520	6226	8.36	7142	37	164	.99	-.95	14.1
		560	6445	8.08	7334	36	149	.90	-.88	13.6
-20	4000	400	5949	10.30	7169	44	244	1.39	-1.33	17.4
		440	6286	9.95	7451	42	219	1.24	-1.19	16.8
		480	6593	9.62	7712	40	197	1.12	-1.08	16.2
		520	6872	9.31	7952	39	179	1.01	-.98	15.7
		560	7125	9.02	8172	37	163	.93	-.90	15.2

Table 6-28. (Sheet 8)

DIVE BOMBING TABLES
FOR
BDU-33D/B PRACTICE BOMB WITH SUU-20 DISPENSER

ANG	RELEASE ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FALL	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS DRIFT
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KNOT
-20	4500	440	6826	10.89	8176	44	235	1.26	-1.22	18.4
		480	7170	10.55	8465	42	212	1.14	-1.10	17.8
		520	7484	10.23	8733	40	193	1.04	-1.00	17.3
		560	7770	9.93	8980	39	177	.95	-.92	16.8
-20	5000	480	7718	11.44	9196	43	227	1.15	-1.12	19.3
		520	8066	11.11	9491	42	207	1.06	-1.03	18.8
		560	8384	10.81	9762	40	189	.97	-.94	18.2
-20	5500	480	8240	12.30	9908	45	240	1.19	-1.15	20.8
		520	8622	11.97	10227	43	219	1.08	-1.05	20.2
		560	8970	11.66	10522	41	202	1.00	-.96	19.7
-20	6000	520	9154	12.80	10945	44	232	1.10	-1.07	21.6
		560	9532	12.48	11263	43	213	1.01	-.98	21.1
-20	6500	560	10071	13.29	11987	44	225	1.03	-1.00	22.4
-30	1000	360	1401	2.77	1721	39	100	1.63	-1.56	4.7
-30	1500	360	1994	3.98	2496	41	124	1.67	-1.60	6.7
		400	2064	3.71	2552	40	107	1.48	-1.43	6.3
		440	2122	3.47	2599	39	94	1.33	-1.29	5.9
		480	2171	3.26	2639	38	83	1.21	-1.17	5.5
-30	2000	360	2538	5.11	3231	44	146	1.70	-1.63	8.6
		400	2640	4.79	3312	42	127	1.51	-1.45	8.1
		440	2726	4.50	3382	41	111	1.36	-1.31	7.6
		480	2799	4.24	3441	39	99	1.24	-1.20	7.2
		520	2862	4.01	3492	38	88	1.13	-1.10	6.8
		560	2916	3.80	3537	38	79	1.05	-1.01	6.4
-30	2500	360	3041	6.17	3937	46	166	1.72	-1.65	10.4
		400	3176	5.81	4043	44	145	1.54	-1.48	9.8
		440	3292	5.48	4134	42	127	1.38	-1.34	9.3
		480	3392	5.18	4214	41	113	1.26	-1.22	8.8
		520	3478	4.92	4283	40	101	1.15	-1.12	8.3
		560	3552	4.67	4344	39	91	1.07	-1.03	7.9
-30	3000	360	3511	7.18	4619	48	185	1.75	-1.68	12.1
		400	3680	6.78	4748	46	162	1.56	-1.50	11.5
		440	3826	6.42	4862	44	143	1.41	-1.36	10.8
		480	3952	6.10	4962	43	127	1.28	-1.24	10.3
		520	4062	5.80	5050	41	114	1.17	-1.14	9.8
		560	4158	5.52	5128	40	103	1.08	-1.05	9.3
-30	3500	360	3954	8.14	5281	49	202	1.76	-1.70	13.7
		400	4156	7.72	5434	47	178	1.58	-1.52	13.0
		440	4331	7.33	5569	45	157	1.43	-1.38	12.4
		480	4485	6.98	5689	44	140	1.30	-1.25	11.8
		520	4620	6.65	5796	43	126	1.19	-1.15	11.2
		560	4737	6.35	5890	41	114	1.10	-1.07	10.7
-30	4000	360	4372	9.06	5926	51	219	1.78	-1.71	15.3
		400	4607	8.61	6101	49	193	1.60	-1.54	14.5
		440	4812	8.20	6258	47	171	1.44	-1.39	13.8
		480	4993	7.83	6398	45	153	1.32	-1.27	13.2
		520	5152	7.48	6523	44	138	1.21	-1.17	12.6
		560	5293	7.16	6635	43	124	1.12	-1.09	12.1
-30	4500	360	4770	9.94	6558	52	234	1.79	-1.73	16.8
		400	5036	9.48	6754	50	207	1.61	-1.55	16.0
		440	5271	9.05	6931	48	184	1.46	-1.41	15.3
		480	5479	8.66	7090	47	165	1.33	-1.29	14.6
		520	5663	8.29	7234	45	149	1.22	-1.19	14.0
		560	5826	7.95	7362	44	135	1.13	-1.10	13.4

Table 6-28. (Sheet 9)

DIVE BOMBING TABLES
FOR
BDU-33D/B PRACTICE BOMB WITH SUU-20 DISPENSER

ANG DEG	RELEASE ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FALL SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT
-30	5000	360	5149	10.80	7177	54	248	1.81	-1.74	18.2
		400	5446	10.32	7394	51	220	1.62	-1.57	17.4
		440	5710	9.87	7590	49	196	1.47	-1.43	16.7
		480	5945	9.46	7769	48	177	1.35	-1.31	16.0
		520	6154	9.08	7930	46	160	1.24	-1.20	15.3
		560	6339	8.73	8074	45	145	1.15	-1.12	14.7
-30	5500	360	5511	11.62	7787	55	262	1.82	-1.75	19.6
		400	5840	11.13	8022	53	233	1.64	-1.58	18.8
		440	6132	10.67	8238	51	208	1.49	-1.44	18.0
		480	6393	10.24	8434	49	188	1.36	-1.32	17.3
		520	6627	9.84	8613	47	170	1.25	-1.22	16.6
		560	6834	9.48	8773	46	155	1.16	-1.13	16.0
-30	6000	400	6218	11.92	8641	54	245	1.65	-1.59	20.1
		440	6538	11.45	8874	52	220	1.50	-1.45	19.3
		480	6825	11.01	9088	50	198	1.37	-1.33	18.6
		520	7083	10.60	9283	48	180	1.27	-1.23	17.9
		560	7312	10.22	9459	47	164	1.18	-1.14	17.3
-30	6500	400	6582	12.69	9251	55	256	1.66	-1.60	21.4
		440	6930	12.21	9501	53	231	1.51	-1.46	20.6
		480	7242	11.76	9732	51	209	1.39	-1.34	19.8
		520	7524	11.33	9944	49	190	1.28	-1.24	19.1
		560	7775	10.95	10135	48	173	1.19	-1.16	18.5
-30	7000	440	7308	12.95	10120	54	241	1.52	-1.47	21.9
		480	7646	12.49	10366	52	218	1.40	-1.35	21.1
		520	7951	12.05	10594	50	199	1.29	-1.25	20.3
		560	8223	11.66	10800	49	182	1.20	-1.17	19.7
-30	7500	440	7674	13.67	10731	55	251	1.53	-1.48	23.1
		480	8036	13.20	10993	53	228	1.41	-1.36	22.3
		520	8365	12.76	11235	51	208	1.30	-1.26	21.5
		560	8658	12.36	11455	50	191	1.21	-1.18	20.9
-30	8000	480	8416	13.90	11612	54	237	1.41	-1.37	23.5
		520	8767	13.45	11869	52	217	1.31	-1.27	22.7
		560	9080	13.05	12102	51	199	1.22	-1.19	22.0
-30	8500	480	8784	14.59	12224	54	246	1.42	-1.38	24.6
		520	9158	14.13	12495	53	225	1.32	-1.28	23.9
		560	9491	13.72	12741	51	207	1.23	-1.20	23.2
-30	9000	520	9538	14.80	13114	54	233	1.33	-1.29	25.0
		560	9891	14.39	13373	52	215	1.24	-1.21	24.3
-30	9500	520	9909	15.46	13728	54	241	1.34	-1.30	26.1
		560	10281	15.04	13998	53	223	1.25	-1.22	25.4
-30	10000	560	10661	15.69	14617	54	230	1.26	-1.22	26.5
-45	2000	360	1621	4.03	2575	54	107	2.10	-2.03	6.8
-45	2500	360	1970	4.93	3183	56	120	2.10	-2.03	8.3
		400	2034	4.58	3223	54	104	1.90	-1.84	7.7
		440	2087	4.27	3257	53	92	1.73	-1.68	7.2
-45	3000	360	2301	5.80	3781	57	133	2.10	-2.03	9.8
		400	2364	5.40	3832	56	116	1.90	-1.84	9.1
		440	2453	5.05	3875	54	102	1.73	-1.69	8.5
		480	2511	4.74	3912	53	90	1.59	-1.55	8.0

Table 6-28. (Sheet 10)

DIVE BOMBING TABLES
FOR
BDU-33D/B PRACTICE BOMB WITH SUU-20 DISPENSER

ANG DEG	RELEASE ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FALL SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT
-45	3500	360	2618	6.64	4371	58	145	2.09	-2.03	11.2
		400	2719	6.20	4433	57	126	1.90	-1.84	10.5
		440	2805	5.81	4485	55	111	1.74	-1.69	9.8
		480	2877	5.47	4531	54	99	1.60	-1.56	9.2
		520	2938	5.15	4570	53	88	1.48	-1.45	8.7
-45	4000	360	2921	7.45	4953	59	156	2.09	-2.03	12.6
		400	3042	6.98	5026	58	136	1.90	-1.85	11.8
		440	3144	6.56	5088	56	120	1.74	-1.69	11.1
		480	3231	6.18	5142	55	107	1.60	-1.56	10.4
		520	3305	5.84	5189	54	96	1.49	-1.45	9.9
		560	3369	5.54	5230	53	87	1.39	-1.36	9.3
-45	4500	360	3212	8.24	5529	60	167	2.08	-2.02	13.9
		400	3353	7.74	5612	59	146	1.90	-1.85	13.1
		440	3472	7.29	5684	57	129	1.74	-1.70	12.3
		480	3574	6.89	5747	56	115	1.61	-1.57	11.6
		520	3662	6.52	5802	55	103	1.49	-1.46	11.0
		560	3737	6.19	5850	54	93	1.39	-1.36	10.4
-45	5000	360	3492	9.01	6099	61	177	2.08	-2.02	15.2
		400	3652	8.48	6192	60	156	1.90	-1.85	14.3
		440	3789	8.01	6274	58	138	1.74	-1.70	13.5
		480	3907	7.58	6346	57	123	1.61	-1.57	12.8
		520	4008	7.18	6409	56	111	1.50	-1.46	12.1
		560	4095	6.84	6463	55	100	1.40	-1.37	11.5
-45	5500	360	3762	9.76	6664	62	186	2.07	-2.02	16.5
		400	3942	9.21	6767	60	164	1.90	-1.85	15.5
		440	4097	8.71	6858	59	146	1.74	-1.70	14.7
		480	4230	8.25	6939	58	131	1.61	-1.58	13.9
		520	4345	7.84	7010	56	118	1.50	-1.47	13.2
		560	4445	7.47	7072	55	107	1.41	-1.37	12.6
-45	6000	360	4023	10.49	7224	63	196	2.07	-2.01	17.7
		400	4223	9.92	7337	61	173	1.89	-1.84	16.7
		440	4395	9.40	7438	60	154	1.75	-1.70	15.9
		480	4544	8.92	7527	58	138	1.62	-1.58	15.1
		520	4674	8.49	7606	57	124	1.51	-1.47	14.3
		560	4786	8.10	7675	56	113	1.41	-1.38	13.7
-45	6500	360	4276	11.21	7781	64	204	2.06	-2.01	18.9
		400	4495	10.61	7903	62	181	1.89	-1.84	17.9
		440	4685	10.07	8012	60	162	1.75	-1.70	17.0
		480	4850	9.58	8110	59	145	1.62	-1.58	16.2
		520	4994	9.13	8197	58	131	1.51	-1.48	15.4
		560	5118	8.72	8274	57	119	1.42	-1.39	14.7
-45	7000	360	4521	11.91	8333	64	213	2.06	-2.00	20.1
		400	4759	11.30	8465	63	189	1.89	-1.84	19.1
		440	4966	10.74	8583	61	169	1.75	-1.70	18.1
		480	5147	10.22	8689	60	152	1.62	-1.58	17.3
		520	5306	9.76	8784	58	138	1.51	-1.48	16.5
		560	5443	9.34	8868	57	125	1.42	-1.39	15.8
-45	7500	360	4759	12.59	8883	65	221	2.05	-2.00	21.3
		400	5016	11.97	9023	63	197	1.89	-1.84	20.2
		440	5241	11.39	9150	62	176	1.75	-1.70	19.2
		480	5438	10.86	9264	60	159	1.62	-1.59	18.3
		520	5611	10.38	9367	59	144	1.52	-1.48	17.5
		560	5760	9.95	9457	58	131	1.43	-1.39	16.8

Table 6-28. (Sheet 11)

DIVE BOMBING TABLES
FOR
BDU-33D/B PRACTICE BOMB WITH SUU-20 DISPENSER

ANG DEG	RELEASE ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FALL SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT
-45	8000	360	4991	13.27	9429	66	228	2.04	-1.99	22.4
		400	5266	12.62	9578	64	204	1.88	-1.84	21.3
		440	5508	12.03	9713	62	183	1.75	-1.70	20.3
		480	5721	11.49	9835	61	165	1.62	-1.59	19.4
		520	5908	10.99	9946	60	150	1.52	-1.49	18.5
		560	6071	10.55	10043	59	137	1.43	-1.40	17.8
-45	8500	360	5216	13.93	9973	66	236	2.04	-1.99	23.5
		400	5510	13.27	10130	65	211	1.88	-1.84	22.4
		440	5769	12.67	10273	63	190	1.74	-1.70	21.4
		480	5998	12.11	10403	62	172	1.63	-1.59	20.4
		520	6200	11.60	10521	60	156	1.52	-1.49	19.6
		560	6374	11.14	10625	59	143	1.43	-1.40	18.8
-45	9000	360	5435	14.58	10514	67	243	2.03	-1.98	24.6
		400	5748	13.91	10679	65	218	1.88	-1.83	23.5
		440	6024	13.29	10830	64	196	1.74	-1.70	22.4
		480	6268	12.72	10968	62	178	1.63	-1.59	21.5
		520	6484	12.19	11093	61	162	1.52	-1.49	20.6
		560	6671	11.73	11203	60	148	1.44	-1.41	19.8
-45	9500	360	5649	15.21	11053	67	250	2.02	-1.98	25.7
		400	5980	14.53	11226	66	224	1.87	-1.83	24.5
		440	6273	13.90	11385	64	202	1.74	-1.70	23.5
		480	6533	13.32	11530	63	184	1.63	-1.59	22.5
		520	6763	12.79	11662	61	167	1.53	-1.49	21.6
		560	6962	12.32	11778	60	154	1.44	-1.41	20.9
-45	10000	360	5858	15.84	11590	68	256	2.02	-1.97	26.7
		400	6207	15.15	11770	66	230	1.87	-1.83	25.6
		440	6517	14.51	11936	65	208	1.74	-1.70	24.5
		480	6792	13.91	12089	63	189	1.63	-1.59	23.5
		520	7036	13.37	12228	62	173	1.53	-1.49	22.6
		560	7247	12.90	12350	61	159	1.44	-1.41	21.8
-60	3000	360	1379	5.03	3302	68	95	2.37	-2.32	8.5
-60	3500	360	1578	5.79	3839	69	102	2.35	-2.30	9.8
		400	1631	5.36	3862	68	89	2.15	-2.11	9.0
-60	4000	360	1769	6.53	4374	69	109	2.33	-2.29	11.0
		400	1834	5.06	4400	68	95	2.14	-2.10	10.2
		440	1887	5.65	4423	67	84	1.97	-1.94	9.5
-60	4500	360	1954	7.25	4906	70	115	2.32	-2.27	12.2
		400	2030	6.75	4937	69	101	2.13	-2.09	11.4
		440	2092	6.30	4963	68	90	1.97	-1.93	10.6
-60	5000	360	2133	7.95	5436	71	122	2.30	-2.25	13.4
		400	2220	7.42	5471	69	107	2.12	-2.08	12.5
		440	2293	6.95	5501	68	95	1.96	-1.92	11.7
		480	2354	6.53	5527	68	85	1.82	-1.79	11.0
-60	5500	360	2307	8.64	5964	71	127	2.28	-2.24	14.6
		400	2405	8.08	6003	70	112	2.10	-2.07	13.6
		440	2488	7.58	6037	69	100	1.95	-1.92	12.8
		480	2558	7.13	6066	68	89	1.82	-1.79	12.0
		520	2617	6.73	6091	67	80	1.70	-1.67	11.4
-60	6000	360	2476	9.32	6491	72	133	2.27	-2.22	15.7
		400	2585	8.73	6534	70	118	2.09	-2.06	14.7
		440	2678	8.21	6571	69	105	1.94	-1.91	13.8
		480	2757	7.73	6603	69	94	1.81	-1.78	13.1
		520	2824	7.31	6632	68	85	1.70	-1.67	12.3
		560	2882	6.94	6656	67	77	1.60	-1.58	11.7

Table 6-28. (Sheet 12)

DIVE BOMBING TABLES
FOR
BDU-33D/B PRACTICE BOMB WITH SUU-20 DISPENSER

ANG DEG	RELEASE ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FALL SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS DRIFT FT/KNOT
-60	6500	360	2640	9.99	7016	72	139	2.25	-2.21	16.9
		400	2761	9.37	7062	71	123	2.08	-2.05	15.8
		440	2864	8.82	7103	70	109	1.94	-1.90	14.9
		480	2952	8.32	7139	69	98	1.81	-1.78	14.1
		520	3027	7.88	7171	68	89	1.70	-1.67	13.3
		560	3091	7.49	7198	68	81	1.60	-1.58	12.6
-60	7000	360	2799	10.64	7539	73	144	2.23	-2.20	18.0
		400	2932	10.00	7590	71	128	2.07	-2.04	16.9
		440	3046	9.43	7634	70	114	1.93	-1.90	15.9
		480	3143	8.91	7673	69	102	1.80	-1.78	15.0
		520	3226	8.44	7708	69	93	1.69	-1.67	14.3
		560	3297	8.04	7738	68	84	1.60	-1.58	13.6
-60	7500	360	2955	11.28	8061	73	149	2.22	-2.18	19.0
		400	3099	10.62	8115	72	133	2.06	-2.03	17.9
		440	3223	10.03	8163	71	118	1.92	-1.89	16.9
		480	3329	9.49	8206	70	107	1.80	-1.77	16.0
		520	3421	9.00	8244	69	96	1.69	-1.67	15.2
		560	3499	8.58	8276	68	88	1.60	-1.58	14.5
-60	8000	360	3107	11.92	8582	73	154	2.21	-2.17	20.1
		400	3263	11.24	8640	72	137	2.05	-2.02	19.0
		440	3397	10.62	8691	71	123	1.92	-1.89	17.9
		480	3512	10.06	8737	70	111	1.80	-1.77	17.0
		520	3612	9.56	8778	69	100	1.69	-1.66	16.1
		560	3697	9.12	8813	69	91	1.60	-1.58	15.4
-60	8500	360	3255	12.54	9102	74	159	2.19	-2.16	21.2
		400	3422	11.84	9163	73	142	2.04	-2.01	20.0
		440	3567	11.21	9218	72	127	1.91	-1.88	18.9
		480	3692	10.63	9267	71	114	1.79	-1.76	17.9
		520	3800	10.11	9311	70	104	1.69	-1.66	17.1
		560	3892	9.66	9349	69	95	1.60	-1.58	16.3
-60	9000	360	3400	13.15	9621	74	163	2.18	-2.14	22.2
		400	3579	12.44	9686	73	146	2.03	-2.00	21.0
		440	3733	11.78	9744	72	131	1.90	-1.87	19.9
		480	3868	11.19	9796	71	118	1.79	-1.76	18.9
		520	3984	10.65	9843	70	107	1.68	-1.66	18.0
		560	4083	10.20	9883	69	98	1.60	-1.58	17.2
-60	9500	360	3541	13.76	10139	75	167	2.17	-2.13	23.2
		400	3732	13.02	10207	73	150	2.02	-1.99	22.0
		440	3897	12.35	10268	72	135	1.90	-1.87	20.9
		480	4040	11.75	10324	71	122	1.78	-1.76	19.8
		520	4165	11.19	10373	70	111	1.68	-1.66	18.9
		560	4271	10.73	10416	70	102	1.60	-1.58	18.1
-60	10000	360	3680	14.35	10656	75	172	2.15	-2.12	24.2
		400	3881	13.60	10727	74	154	2.01	-1.98	23.0
		440	4057	12.92	10792	73	139	1.89	-1.86	21.8
		480	4210	12.30	10850	72	126	1.78	-1.75	20.8
		520	4343	11.73	10903	71	114	1.68	-1.66	19.8
		560	4455	11.26	10948	70	105	1.60	-1.58	19.0

Table 6-29. (Sheet 1)

LEVEL BOMBING TABLES
FOR
MK-106 PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS HEAD	TAIL	CROSS DRIFT	CRAB
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KNOT	
0	50	360	449	.98	452	9	127	.50	-.47	1.7	.4
		400	495	1.00	498	8	115	.42	-.39	1.7	.4
		440	539	1.02	541	7	105	.36	-.34	1.7	.5
		480	581	1.04	584	7	97	.31	-.29	1.8	.5
		520	622	1.07	624	7	91	.28	-.26	1.8	.6
		560	659	1.09	661	7	86	.25	-.24	1.8	.7
0	75	360	594	1.42	599	11	138	.59	-.55	2.4	.7
		400	650	1.45	655	10	126	.50	-.47	2.4	.8
		440	704	1.48	708	10	116	.44	-.41	2.5	.9
		480	756	1.51	759	9	108	.39	-.36	2.6	1.0
		520	803	1.55	806	9	102	.35	-.33	2.6	1.1
		560	846	1.58	849	9	96	.32	-.30	2.7	1.2
0	100	360	709	1.82	716	13	151	.69	-.63	3.1	1.1
		400	773	1.86	780	13	138	.59	-.55	3.1	1.2
		440	834	1.90	840	12	128	.52	-.48	3.2	1.3
		480	890	1.94	896	12	120	.46	-.43	3.3	1.4
		520	942	1.98	947	11	113	.42	-.39	3.3	1.5
		560	988	2.02	993	11	108	.39	-.36	3.4	1.6
0	125	360	805	2.18	815	16	164	.79	-.72	3.7	1.4
		400	874	2.23	883	15	151	.68	-.63	3.8	1.6
		440	939	2.28	947	15	140	.60	-.56	3.8	1.7
		480	999	2.33	1007	14	132	.54	-.50	3.9	1.8
		520	1054	2.37	1061	14	125	.50	-.46	4.0	2.0
		560	1101	2.42	1108	14	120	.46	-.43	4.1	2.1
0	150	360	886	2.53	899	18	177	.89	-.81	4.3	1.8
		400	959	2.58	971	18	163	.78	-.71	4.4	2.0
		440	1028	2.63	1038	17	152	.69	-.63	4.4	2.1
		480	1090	2.68	1100	17	144	.63	-.58	4.5	2.3
		520	1146	2.73	1156	16	137	.58	-.53	4.6	2.4
		560	1195	2.78	1204	16	131	.54	-.50	4.7	2.6
0	200	360	1020	3.15	1039	23	202	1.10	-.99	5.3	2.5
		400	1098	3.21	1116	22	188	.97	-.88	5.4	2.7
		440	1170	3.28	1187	22	176	.87	-.79	5.5	2.9
		480	1236	3.33	1252	21	167	.79	-.72	5.6	3.1
		520	1295	3.39	1310	21	159	.73	-.67	5.7	3.2
		560	1345	3.44	1360	21	153	.69	-.63	5.8	3.4
0	250	360	1126	3.71	1153	28	226	1.31	-1.18	6.3	3.1
		400	1208	3.79	1233	27	211	1.16	-1.05	6.4	3.4
		440	1283	3.85	1307	26	199	1.05	-.95	6.5	3.6
		480	1351	3.92	1374	26	189	.96	-.87	6.6	3.8
		520	1411	3.98	1433	26	181	.90	-.82	6.7	4.0
		560	1462	4.03	1483	26	175	.85	-.77	6.8	4.2
0	300	360	1214	4.23	1250	32	250	1.52	-1.36	7.1	3.8
		400	1299	4.31	1333	31	234	1.36	-1.22	7.3	4.0
		440	1376	4.38	1408	31	221	1.23	-1.11	7.4	4.3
		480	1446	4.45	1476	30	211	1.13	-1.02	7.5	4.5
		520	1506	4.51	1536	30	202	1.06	-.96	7.6	4.7
		560	1558	4.57	1587	30	196	1.00	-.91	7.7	4.9
0	350	440	1454	4.87	1496	35	242	1.41	-1.27	8.2	4.9
		480	1525	4.95	1565	34	231	1.31	-1.18	8.4	5.2
		520	1587	5.01	1625	34	223	1.22	-1.11	8.5	5.4
		560	1639	5.07	1676	34	216	1.16	-1.05	8.6	5.6
0	400	480	1594	5.41	1644	38	252	1.48	-1.33	9.1	5.8
		520	1656	5.48	1704	38	242	1.39	-1.25	9.2	6.1
		560	1709	5.54	1755	38	235	1.32	-1.19	9.4	6.3

Table 6-29. (Sheet 2)

DIVE BOMBING TABLES
FOR
MK-106 PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE DEG	ALT ABOVE TGT FT	TAS KTS	BOMB RANGE FT	TIME OF FLIGHT SEC	SLANT RANGE FROM REL FT	IMPACT ANGLE DEG	SIGHT DEP FROM FLIGHT PATH MILS	WIND CORRECTION FACTORS HEAD MILS/KNOT	TAIL MILS/KNOT	CROSS FT/KT
5	200	360	809	2.24	834	21	165	1.21	-1.11	3.8
		400	862	2.22	885	20	149	1.06	-.97	3.8
		440	911	2.21	932	19	137	.94	-.87	3.7
		480	954	2.20	975	18	127	.86	-.79	3.7
		520	993	2.19	1013	18	119	.79	-.73	3.7
		560	1027	2.19	1046	17	112	.74	-.69	3.7
5	250	360	929	2.77	962	25	184	1.39	-1.27	4.7
		400	989	2.76	1020	23	168	1.23	-1.12	4.7
		440	1044	2.75	1073	22	155	1.10	-1.01	4.6
		480	1093	2.74	1121	22	144	1.00	-.93	4.6
		520	1137	2.74	1164	21	136	.93	-.86	4.6
		560	1174	2.74	1200	21	129	.87	-.81	4.6
5	300	360	1030	3.27	1072	28	204	1.58	-1.43	5.5
		400	1095	3.27	1136	27	187	1.40	-1.28	5.5
		440	1155	3.26	1193	26	174	1.27	-1.16	5.5
		480	1209	3.26	1246	25	162	1.16	-1.06	5.5
		520	1256	3.27	1291	25	153	1.08	-.99	5.5
		560	1296	3.28	1331	24	146	1.01	-.93	5.5
5	350	360	1116	3.74	1170	32	224	1.77	-1.60	6.3
		400	1187	3.75	1237	31	207	1.58	-1.43	6.3
		440	1250	3.75	1298	30	192	1.43	-1.30	6.3
		480	1307	3.76	1353	29	180	1.32	-1.20	6.3
		520	1357	3.77	1401	28	171	1.23	-1.12	6.4
		560	1399	3.78	1443	28	163	1.16	-1.06	6.4
5	400	400	1265	4.21	1327	34	226	1.76	-1.59	7.1
		440	1332	4.22	1391	33	211	1.60	-1.45	7.1
		480	1392	4.23	1448	33	199	1.48	-1.34	7.1
		520	1444	4.24	1498	32	189	1.38	-1.26	7.2
		560	1488	4.26	1541	32	181	1.31	-1.19	7.2
5	450	440	1404	4.66	1475	37	229	1.77	-1.60	7.9
		480	1466	4.68	1533	36	216	1.64	-1.48	7.9
		520	1520	4.69	1585	35	206	1.54	-1.39	7.9
		560	1565	4.71	1628	35	198	1.46	-1.33	8.0
5	500	480	1532	5.11	1611	39	234	1.80	-1.62	8.6
		520	1587	5.13	1664	39	223	1.69	-1.53	8.7
		560	1633	5.15	1708	38	215	1.61	-1.46	8.7
10	300	360	854	2.51	906	27	172	1.69	-1.55	4.2
		400	901	2.45	949	26	155	1.50	-1.38	4.1
10	350	360	946	2.94	1008	30	188	1.87	-1.70	5.0
		400	998	2.89	1057	29	171	1.66	-1.52	4.9
		440	1044	2.84	1101	28	156	1.50	-1.38	4.8
		480	1085	2.79	1140	27	144	1.37	-1.27	4.7
10	400	360	1027	3.36	1102	33	205	2.04	-1.85	5.7
		400	1084	3.31	1155	32	186	1.82	-1.66	5.6
		440	1135	3.27	1203	30	171	1.65	-1.51	5.5
		480	1180	3.23	1246	29	159	1.51	-1.39	5.4
		520	1219	3.20	1283	29	149	1.41	-1.30	5.4
		560	1252	3.17	1315	28	140	1.33	-1.23	5.4
10	450	360	1099	3.78	1188	36	222	2.21	-2.00	6.4
		400	1160	3.73	1245	35	202	1.98	-1.80	6.3
		440	1215	3.69	1296	33	187	1.80	-1.65	6.2
		480	1264	3.65	1342	32	174	1.66	-1.52	6.2
		520	1306	3.62	1381	32	163	1.55	-1.43	6.1
		560	1341	3.60	1415	31	155	1.47	-1.35	6.1

Table 6-29. (Sheet 3)

DIVE BOMBING TABLES
FOR
MK-106 PRACTICE BOMB WITH SUU-20 DISPENSER

DIVE ANGLE	ALT ABOVE TGT	TAS	BOMB RANGE	TIME OF FLIGHT	SLANT RANGE FROM REL	IMPACT ANGLE	SIGHT DEP FROM FLIGHT PATH	WIND CORRECTION FACTORS		
								HEAD	TAIL	CROSS
DEG	FT	KTS	FT	SEC	FT	DEG	MILS	MILS/KNOT		FT/KT
10	500	360	1165	4.18	1267	39	238	2.39	-2.15	7.1
		400	1229	4.14	1327	38	218	2.15	-1.95	7.0
		440	1287	4.10	1381	36	202	1.96	-1.78	6.9
		480	1339	4.07	1429	35	189	1.81	-1.65	6.9
		520	1383	4.04	1471	35	178	1.70	-1.55	6.8
		560	1421	4.03	1506	34	169	1.61	-1.47	6.8
15	400	360	873	2.71	960	33	176	2.15	-1.97	4.6
15	450	360	947	3.08	1048	36	190	2.31	-2.11	5.2
		400	993	3.00	1090	34	171	2.07	-1.90	5.1
15	500	360	1014	3.46	1130	38	204	2.47	-2.25	5.8
		400	1064	3.37	1176	36	185	2.22	-2.03	5.7
		440	1109	3.29	1216	35	168	2.02	-1.85	5.6
20	1000	520	1549	5.81	1844	53	229	3.07	-2.81	9.8
		560	1585	5.76	1874	52	218	2.94	-2.69	9.7
30	1000	360	1071	4.93	1465	57	234	4.11	-3.79	8.3

Table 6-30.

MK-24 FLARE LEVEL RELEASE TABLES

SUU-25A/A FLARE DISPENSER

EJECTION FUZE SETTING SEC	RELEASE TRUE AIRSPEED – KNOTS										
	300	325	350	375	400	425	450	475	500	525	550
5	1460	1530	1600	1670	1730	1790	1850	1910	1960	2110	2160
10	2070	2160	2240	2320	2400	2470	2540	2600	2660	2720	2800
15	2370	2460	2550	2640	2720	2800	2870	2940	3000	3060	3120
20	2510	2610	2700	2790	2870	2950	3030	3100	3160	3220	3280
25	2570	2670	2770	2860	2940	3020	3100	3170	3240	3310	3380
30	2600	2700	2800	2890	2970	3050	3130	3200	3270	3340	3410

HORIZONTAL TRAVEL FOR EJECTION FUZE SETTINGS PRIOR TO FLARE IGNITION – FT FOR ALL IGNITION FUZE SETTINGS (10-30 SECONDS)

SUU-25C/A AND SUU-25E/A FLARE DISPENSERS

HORIZONTAL TRAVEL FOR EJECTION FUZE SETTINGS PRIOR TO FLARE IGNITION – FT FOR ALL IGNITION FUZE SETTINGS (10-30 SECONDS)

EJECTION FUZE SETTING SEC	RELEASE TRUE AIRSPEED – KNOTS										
	300	325	350	375	400	425	450	475	500	525	550
5	1270	1350	1420	1480	1540	1600	1660	1700	1740	1780	1820
10	1790	1880	1960	2040	2110	2180	2240	2300	2350	2400	2450
15	2040	2130	2220	2300	2380	2450	2520	2580	2630	2680	2730
20	2140	2240	2340	2420	2500	2570	2640	2700	2760	2820	2880
25	2190	2290	2390	2470	2550	2620	2690	2750	2810	2870	2930
30	2210	2310	2410	2490	2570	2650	2710	2780	2830	2880	2930

VERTICAL DROP FOR FUZE SETTINGS PRIOR TO FLARE IGNITION – FT

EJECTION FUZE SETTING SEC	IGNITION FUZE SETTING – SEC				
	10	15	20	25	30
5	450	530	610	690	770
10	1140	1220	1300	1380	1460
15	2050	2130	2210	2290	2370
20	3040	3110	3190	3270	3350
25	4040	4110	4190	4270	4340
30	5030	5100	5180	5260	5330

MINIMUM RELEASE ALTITUDE AGL TO PROVIDE FLARE BURNOUT AT GROUND LEVEL – FT

EJECTION FUZE SETTING SEC	MOD 4 IGNITION FUZE SETTING – SEC				
	10	15	20	25	30
5	1390	1470	1550	1630	1710
10	2370	2450	2530	2610	2690
15	3500	3580	3660	3740	3820
20	4700	4770	4850	4930	5010
25	5890	5960	6040	6120	6190
30	7060	7130	7210	7290	7360

NOTE: ADD THE DESIRED BURNOUT HEIGHT TO OBTAIN MINIMUM RELEASE ALTITUDE AGL.

Table 6-31.

LUU-1/B AND LUU-5/B FLARE LEVEL RELEASE TABLES

SUU-25A/A FLARE DISPENSER

HORIZONTAL TRAVEL FOR EJECTION FUZE SETTINGS PRIOR TO FLARE IGNITION – FT FOR ALL IGNITION FUZE SETTINGS (10-30 SECONDS)

RELEASE TRUE AIRSPEED KTS	EJECTION FUZE SETTING – SEC 5	10	15	20	25	30
300	1750	2590	3110	3460	3690	3920
350	1930	2830	3390	3770	4010	4260
400	2100	3050	3640	4030	4290	4560
450	2260	3250	3860	4280	4550	4830
500	2410	3430	4060	4490	4780	5070
550	2550	3590	4240	4690	4980	5300

SUU-25C/A AND SUU-25E/A FLARE DISPENSERS

HORIZONTAL TRAVEL FOR EJECTION FUZE SETTINGS PRIOR TO FLARE IGNITION – FT FOR ALL IGNITION FUZE SETTINGS (10-30 SECONDS)

RELEASE TRUE AIRSPEED KTS	EJECTION FUZE SETTING – SEC 5	10	15	20	25	30
300	1630	2410	2930	3260	3480	3680
350	1820	2690	3230	3590	3820	4050
400	2000	2920	3490	3870	4120	4380
450	2170	3130	3730	4130	4390	4670
500	2320	3320	3940	4360	4640	4930
550	2460	3500	4140	4580	4860	5170

VERTICAL DROP FOR FUZE SETTINGS PRIOR TO FLARE IGNITION – FT

EJECTION FUZE SETTING SEC	RELEASE TRUE AIRSPEED KTS	IGNITION FUZE SETTING – SEC 10	15	20	25	30
5	300	680	850	1030	1210	1390
5	350	670	840	1020	1200	1380
5	400	660	840	1010	1190	1370
5	450	650	830	1010	1180	1360
5	500	640	820	1000	1180	1360
5	550	630	810	990	1170	1350
10	300	1490	1670	1850	2020	2200
10	350	1460	1640	1820	2000	2180
10	400	1440	1620	1800	1980	2160
10	450	1420	1600	1780	1960	2140
10	500	1410	1590	1760	1940	2120
10	550	1400	1580	1740	1920	2100
15	300	2580	2760	2940	3110	3290
15	350	2540	2720	2900	3080	3260
15	400	2510	2690	2870	3050	3230
15	450	2480	2660	2840	3020	3200
15	500	2460	2640	2820	3000	3180
15	550	2440	2620	2800	2980	3160
20	300	3820	4000	4180	4360	4540
20	350	3780	3960	4140	4320	4490
20	400	3740	3920	4100	4280	4460
20	450	3700	3890	4070	4250	4430
20	500	2680	3860	4040	4220	4400
20	550	2660	3830	4010	4190	4370
25	300	5130	5310	5490	5700	5870
25	350	5090	5260	5440	5650	5830
25	400	5050	5220	5400	5610	5790
25	450	5010	5190	5370	5570	5750
25	500	4980	5160	5340	5540	5720
25	550	4950	5130	5310	5510	5690
30	300	6340	6650	6830	7070	7250
30	350	6290	6600	6780	7020	7200
30	400	6250	6560	6740	6980	7160
30	450	6210	6530	6700	6940	7120
30	500	6180	6500	6670	6910	7090
30	550	6150	6470	6640	6830	7060

Table 6-32.

LUU-2/B FLARE LEVEL RELEASE TABLES

SUU-25A/A FLARE DISPENSER

HORIZONTAL TRAVEL PRIOR TO FLARE IGNITION – FT						
FEET OF FALL BEFORE LIGHT	RELEASE TRUE AIRSPEED – KNOTS					
	300	350	400	450	500	550
500	1910	2130	2330	2510	2690	2850
1500	2690	2950	3190	3410	3600	3790
3000	3200	3500	3760	4000	4220	4410
4000	3400	3710	3990	4230	4450	4660
5000	3560	3880	4170	4420	4650	4860
6500	3750	4090	4390	4650	4890	5110
7500	3880	4230	4540	4810	5070	5290
8500	3980	4340	4660	4940	5210	5440

SUU-25C/A AND SUU-25E/A FLARE DISPENSERS

HORIZONTAL TRAVEL PRIOR TO FLARE IGNITION – FT						
FEET OF FALL BEFORE LIGHT	RELEASE TRUE AIRSPEED – KNOTS					
	300	350	400	450	500	550
500	1830	2060	2260	2450	2630	2790
1500	2590	2870	3110	3340	3540	3730
3000	3100	3410	3680	3920	4150	4350
4000	3290	3610	3890	4150	4380	4590
5000	3450	3780	4080	4350	4590	4800
6500	3640	3990	4310	4580	4830	5070
7500	3750	4120	4440	4730	4980	5220
8500	3850	4230	4560	4860	5120	5360

TIME OF FALL AND WIND CORRECTION FACTORS TO FLARE IGNITION		
FEET OF FALL BEFORE LIGHT	TIME OF FALL (SEC)	WIND CORRECTION FACTORS (FT/KT)
500	6.7	11.3
1500	12.5	21.1
3000	19.0	32.1
4000	22.9	38.6
5000	26.7	45.0
6500	32.1	54.1
7500	35.8	60.4
8500	39.3	66.4

Table 6-33. (Sheet 1)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM-M55 BALL
LOAD CONFIGURATION; ONLY CENTERLINE STATION LOADED
NOTE
WITH CENTERLINE AND 1 STA. ON EACH WING LOADED, INCREASE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS											WIND CORRECTIONS FACTORS	
				12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0		
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
200	360	5	.96	6	7	8	10	11	2383	2678	3043	2375	2670	3036	2	.0
200	400	5	.82	4	5	6	7	8	2233	2433	2668	2224	2425	2660	1	.0
200	440	5	.74	3	4	5	6	6	2136	2280	2442	2127	2271	2434	1	.0
200	480	5	.69	2	3	3	4	5	2069	2176	2293	2059	2167	2285	1	.0
200	520	5	.64	1	2	2	3	3	2020	2100	2188	2010	2091	2179	1	.0
300	360	5	1.62	9	10	12	14	16	3452	3828	4263	3439	3816	4253	3	.1
300	400	5	1.39	7	8	9	10	12	3257	3522	3822	3243	3509	3810	2	.1
300	440	5	1.25	5	6	7	8	9	3128	3323	3538	3114	3309	3525	2	.1
300	480	5	1.15	4	5	5	6	7	3039	3185	3345	3024	3171	3331	2	.1
300	520	5	1.08	3	3	4	5	5	2972	3084	3204	2956	3069	3190	2	.1
300	560	5	1.02	2	2	3	3	4	2935	3022	3114	2919	3007	3100	2	.1
400	360	5	2.39	13	15	17	19	22	4400	4803	5239	4382	4786	5223	4	.1
400	400	5	2.07	10	11	13	15	16	4187	4484	4806	4168	4466	4789	3	.1
400	440	5	1.85	8	9	10	12	13	4044	4268	4510	4024	4249	4492	3	.1
400	480	5	1.71	6	7	8	9	10	3942	4115	4299	3921	4095	4280	3	.1
400	520	5	1.59	5	6	7	7	8	3865	4000	4142	3844	3980	4122	3	.1
400	560	5	1.52	4	5	5	6	6	3825	3930	4040	3804	3910	4020	3	.1
500	360	5	3.17	18	20	23	25	28	5211	5606	6019	5187	5583	5998	5	.1
500	400	5	2.80	14	16	18	20	22	5004	5305	5619	4978	5281	5597	5	.1
500	440	5	2.54	12	13	15	16	18	4862	5095	5340	4836	5071	5316	4	.1
500	480	5	2.35	10	11	12	13	15	4759	4943	5135	4733	4918	5110	4	.1
500	520	5	2.20	8	9	10	11	12	4682	4828	4979	4656	4802	4954	4	.1
500	560	5	2.10	7	8	8	9	10	4644	4760	4878	4617	4733	4853	4	.1
600	360	5	3.89	23	26	29	32	35	5901	6279	6668	5870	6251	6641	7	.1
600	400	5	3.51	19	22	24	26	28	5707	6000	6301	5675	5970	6272	6	.1
600	440	5	3.24	17	18	20	22	23	5575	5805	6042	5543	5774	6012	5	.1
600	480	5	3.03	14	16	17	18	20	5480	5664	5852	5447	5632	5821	5	.1
600	520	5	2.86	12	13	14	15	17	5410	5557	5707	5377	5524	5675	5	.1
600	560	5	2.74	11	12	13	13	14	5379	5496	5615	5345	5463	5583	5	.1
700	360	5	4.55	29	32	35	39	42	6499	6860	7227	6461	6824	7193	8	.1
700	400	5	4.17	25	27	30	32	35	6319	6601	6888	6280	6563	6852	7	.1
700	440	5	3.89	22	24	26	27	29	6198	6422	6649	6159	6383	6612	7	.1
700	480	5	3.68	19	21	22	24	25	6113	6292	6473	6073	6252	6435	6	.1
700	520	5	3.50	17	18	19	21	22	6051	6195	6341	6010	6155	6302	6	.1
700	560	5	3.38	15	16	17	18	19	6028	6143	6259	5987	6103	6220	6	.1
800	360	5	5.17	35	39	42	45	49	7027	7372	7720	6981	7328	7679	9	.1
800	400	5	4.79	31	33	36	39	41	6860	7131	7405	6814	7086	7361	8	.1
800	440	5	4.51	28	29	31	33	36	6750	6966	7183	6703	6919	7139	8	.1
800	480	5	4.29	25	26	28	29	31	6674	6847	7022	6626	6800	6976	7	.1
800	520	5	4.11	22	23	25	26	27	6619	6759	6900	6571	6712	6854	7	.1
800	560	5	3.99	21	22	23	24	25	6604	6716	6828	6556	6668	6781	7	.1
300	360	10	.60	5	6	7	8	9	1770	1875	1994	1744	1851	1971	1	.1
300	400	10	.56	3	4	5	6	7	1711	1788	1871	1685	1762	1847	1	.1
300	440	10	.53	2	3	4	5	5	1672	1729	1791	1645	1703	1765	1	.1
300	480	10	.50	1	2	3	3	4	1644	1688	1734	1617	1661	1708	1	.1
400	360	10	.86	6	7	8	9	10	2344	2481	2634	2310	2448	2603	1	.1
400	400	10	.79	4	5	6	7	8	2269	2368	2476	2233	2334	2443	1	.1
400	440	10	.75	3	4	5	5	6	2218	2293	2372	2182	2257	2338	1	.1
400	480	10	.71	2	3	3	4	5	2181	2239	2299	2145	2203	2264	1	.1
400	520	10	.68	1	2	2	3	3	2154	2199	2245	2116	2162	2210	1	.1
400	560	10	.66	0	1	1	2	2	2139	2174	2210	2101	2136	2173	1	.1
500	360	10	1.16	7	8	9	10	12	2907	3072	3256	2863	3031	3217	2	.1
500	400	10	1.06	5	6	7	8	9	2816	2937	3067	2772	2894	3026	2	.1
500	440	10	1.00	4	5	6	6	7	2755	2846	2943	2709	2802	2900	2	.1
500	480	10	.95	3	4	4	5	6	2711	2781	2855	2665	2736	2811	2	.1
500	520	10	.91	2	2	3	4	4	2678	2733	2790	2631	2687	2745	2	.1
500	560	10	.88	1	2	2	3	3	2660	2703	2747	2613	2656	2702	1	.1
400	360	15	.51	4	5	6	7	8	1569	1628	1692	1517	1578	1644	1	.1
400	400	15	.48	3	4	5	6	6	1535	1579	1626	1482	1528	1576	1	.1
500	360	15	.66	5	6	7	8	9	1956	2029	2108	1891	1967	2048	1	.1
500	400	15	.63	4	4	5	6	7	1915	1969	2027	1848	1904	1964	1	.1
500	440	15	.60	2	3	4	5	5	1886	1928	1971	1819	1862	1907	1	.1
500	480	15	.58	1	2	3	3	4	1865	1898	1931	1797	1831	1866	1	.1

Table 6-33. (Sheet 2)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM-M55 BALL
LOAD CONFIGURATION; ONLY CENTERLINE STATION LOADED
NOTE
WITH CENTERLINE AND 1 STA. ON EACH WING LOADED, INCREASE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS												
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
600	360	15	.83	5	6	7	8	9	2341	2427	2521	2262	2352	2448	1	.1
600	400	15	.79	4	5	6	7	8	2292	2356	2424	2212	2278	2349	1	.1
600	440	15	.75	3	4	4	5	6	2258	2307	2359	2177	2228	2281	1	.1
600	480	15	.72	2	3	3	4	4	2233	2272	2312	2151	2191	2233	1	.1
600	520	15	.70	1	2	2	3	3	2215	2245	2276	2132	2163	2196	1	.1
700	360	15	1.02	6	7	8	9	10	2722	2822	2929	2630	2733	2844	2	.2
700	400	15	.96	5	6	7	7	8	2666	2740	2819	2572	2649	2730	2	.2
700	440	15	.92	4	4	5	6	7	2627	2684	2744	2532	2591	2653	2	.2
700	480	15	.88	3	3	4	4	5	2599	2643	2690	2503	2549	2597	1	.1
700	520	15	.85	2	2	3	3	4	2578	2613	2649	2481	2517	2554	1	.1
700	560	15	.83	1	1	2	2	3	2567	2594	2622	2469	2498	2527	1	.1
800	360	15	1.23	7	8	9	10	11	3099	3211	3332	2994	3110	3234	2	.2
800	400	15	1.15	6	7	7	8	9	3036	3120	3208	2929	3016	3107	2	.2
800	440	15	1.10	4	5	6	7	7	2993	3058	3125	2884	2951	3020	2	.2
800	480	15	1.05	3	4	5	5	6	2962	3012	3064	2852	2904	2958	2	.2
800	520	15	1.02	2	3	3	4	4	2938	2978	3018	2827	2868	2910	2	.2
800	560	15	.99	1	2	2	3	3	2926	2957	2989	2815	2847	2880	2	.2

Table 6-33. (Sheet 3)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM-M55 BALL
LOAD CONFIGURATION; ONLY CENTERLINE STATION LOADED
NOTE
WITH CENTERLINE AND 1 STA. ON EACH WING LOADED, INCREASE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
200	360	5	.90	6	7	8	9	11	2390	2686	3056	2381	2679	3049	2	.0
200	400	5	.78	4	5	6	7	8	2239	2437	2671	2230	2429	2663	1	.0
200	440	5	.70	3	4	4	5	6	2140	2281	2441	2130	2272	2433	1	.0
200	480	5	.65	2	2	3	4	4	2069	2173	2287	2060	2163	2278	1	.0
200	520	5	.61	1	1	2	2	3	2029	2106	2190	2019	2097	2180	1	.0
300	360	5	1.49	8	9	11	13	15	3479	3869	4330	3466	3858	4320	3	.1
300	400	5	1.29	6	7	8	10	11	3277	3546	3855	3263	3534	3843	2	.1
300	440	5	1.16	4	5	6	7	8	3143	3338	3555	3129	3325	3543	2	.1
300	480	5	1.06	3	4	5	5	6	3048	3192	3349	3033	3178	3336	2	.1
300	520	5	1.00	2	3	3	4	5	2993	3102	3218	2978	3088	3204	2	.1
300	560	5	.93	0	1	1	2	2	2891	2970	3054	2875	2955	3039	2	.1
400	360	5	2.17	11	13	15	17	19	4471	4909	5396	4453	4892	5381	4	.1
400	400	5	1.88	9	10	11	13	15	4241	4555	4902	4222	4537	4886	3	.1
400	440	5	1.68	7	8	9	10	11	4085	4318	4571	4065	4299	4553	3	.1
400	480	5	1.55	5	6	7	8	9	3972	4147	4335	3952	4128	4317	3	.1
400	520	5	1.46	4	5	5	6	7	3910	4043	4184	3889	4023	4164	2	.1
400	560	5	1.35	2	3	3	4	4	3784	3883	3987	3763	3862	3967	2	.1
500	360	5	2.91	15	17	20	22	25	5349	5793	6264	5325	5772	6244	5	.1
500	400	5	2.54	12	14	15	17	19	5113	5445	5798	5088	5422	5776	4	.1
500	440	5	2.29	10	11	12	14	15	4950	5203	5471	4925	5179	5448	4	.1
500	480	5	2.10	8	9	10	11	12	4831	5025	5228	4805	5000	5204	4	.1
500	520	5	1.98	7	7	8	9	10	4766	4915	5071	4740	4890	5046	3	.1
500	560	5	1.83	4	5	6	6	7	4628	4740	4857	4600	4714	4831	3	.1
600	360	5	3.64	20	22	25	28	31	6109	6538	6982	6079	6511	6956	6	.1
600	400	5	3.23	16	18	20	22	24	5884	6213	6554	5854	6184	6527	5	.1
600	440	5	2.94	14	15	17	18	20	5727	5983	6248	5696	5953	6220	5	.1
600	480	5	2.72	11	12	14	15	16	5611	5811	6018	5579	5780	5988	5	.1
600	520	5	2.57	10	11	12	13	14	5551	5707	5867	5519	5675	5837	4	.1
600	560	5	2.37	7	8	9	9	10	5409	5529	5652	5376	5496	5620	4	.1
700	360	5	4.31	25	28	31	34	37	6767	7178	7596	6731	7143	7564	7	.1
700	400	5	3.90	21	23	25	28	30	6559	6877	7202	6521	6841	7168	7	.1
700	440	5	3.60	18	20	21	23	25	6414	6664	6920	6376	6627	6884	6	.1
700	480	5	3.36	15	17	18	19	21	6308	6505	6707	6269	6468	6670	6	.1
700	520	5	3.20	14	15	16	17	18	6257	6412	6570	6218	6374	6532	5	.1
700	560	5	2.97	11	11	12	13	14	6120	6242	6366	6080	6202	6327	5	.1
800	360	5	4.94	30	34	37	40	44	7346	7738	8135	7303	7697	8096	8	.1
800	400	5	4.53	26	28	31	33	36	7154	7460	7770	7109	7417	7729	8	.1
800	440	5	4.22	23	24	26	28	30	7022	7264	7509	6976	7219	7466	7	.1
800	480	5	3.98	20	21	23	24	26	6927	7119	7313	6880	7073	7269	7	.1
800	520	5	3.81	18	19	20	21	23	6886	7037	7190	6840	6991	7145	6	.1
800	560	5	3.57	15	15	16	17	18	6758	6878	7000	6711	6832	6954	6	.1
300	360	10	.58	5	6	7	8	9	1771	1875	1993	1745	1851	1970	1	.1
300	400	10	.53	3	4	5	6	7	1713	1788	1869	1686	1762	1845	1	.1
300	440	10	.50	2	3	4	4	5	1673	1729	1789	1646	1703	1763	1	.1
300	480	10	.48	1	2	2	3	4	1643	1686	1731	1616	1659	1704	1	.1
400	360	10	.81	5	7	8	9	10	2347	2483	2636	2313	2451	2605	1	.1
400	400	10	.75	4	5	6	7	8	2272	2370	2477	2236	2336	2444	1	.1
400	440	10	.71	3	4	4	5	6	2220	2293	2371	2183	2258	2337	1	.1
400	480	10	.67	2	2	3	4	4	2182	2237	2296	2145	2201	2261	1	.1
400	520	10	.65	1	1	2	2	3	2160	2202	2247	2123	2166	2211	1	.1
400	560	10	.62	-1	-0	0	1	1	2118	2150	2183	2079	2112	2146	1	.1
500	360	10	1.08	6	8	9	10	11	2914	3080	3264	2871	3039	3226	2	.1
500	400	10	.99	5	6	7	8	9	2822	2942	3072	2778	2900	3031	2	.1
500	440	10	.93	4	4	5	6	7	2760	2849	2945	2714	2805	2902	2	.1
500	480	10	.88	2	3	4	4	5	2714	2782	2854	2667	2737	2809	1	.1
500	520	10	.85	1	2	3	3	4	2688	2740	2794	2641	2694	2749	1	.1
500	560	10	.81	-0	0	1	1	2	2636	2675	2716	2588	2628	2669	1	.1
400	360	15	.49	4	5	6	7	8	1569	1628	1691	1518	1578	1643	1	.1
500	360	15	.63	5	6	7	8	9	1957	2030	2108	1892	1967	2048	1	.1
500	400	15	.60	3	4	5	6	7	1916	1969	2026	1849	1905	1963	1	.1
500	440	15	.57	2	3	4	4	5	1887	1927	1970	1819	1861	1905	1	.1

Table 6-33. (Sheet 4)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM-M55 BALL
LOAD CONFIGURATION; ONLY CENTERLINE STATION LOADED
NOTE
WITH CENTERLINE AND 1 STA. ON EACH WING LOADED, INCREASE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS												
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
600	360	15	.79	5	6	7	8	9	2343	2429	2522	2264	2354	2449	1	.1
600	400	15	.74	4	5	6	6	7	2293	2357	2425	2214	2279	2349	1	.1
600	440	15	.71	3	3	4	5	6	2259	2308	2358	2178	2228	2281	1	.1
600	480	15	.68	2	2	3	3	4	2234	2271	2310	2152	2190	2230	1	.1
600	520	15	.66	1	1	2	2	3	2219	2248	2278	2137	2167	2197	1	.1
700	360	15	.96	6	7	8	9	10	2725	2825	2932	2634	2737	2847	2	.1
700	400	15	.90	4	5	6	7	8	2669	2742	2820	2575	2652	2732	2	.1
700	440	15	.86	3	4	5	5	6	2629	2685	2744	2535	2592	2653	1	.1
700	480	15	.83	2	3	3	4	5	2600	2643	2688	2504	2549	2595	1	.1
700	520	15	.80	1	2	2	3	3	2584	2617	2651	2488	2522	2557	1	.1
700	560	15	.77	-0	0	1	1	1	2550	2576	2602	2452	2479	2506	1	.1
800	360	15	1.14	7	8	9	10	11	3105	3217	3338	3000	3116	3240	2	.1
800	400	15	1.07	5	6	7	8	9	3042	3125	3212	2934	3020	3111	2	.1
800	440	15	1.02	4	5	5	6	7	2997	3060	3126	2889	2954	3022	2	.1
800	480	15	.98	3	3	4	5	5	2964	3013	3064	2854	2905	2957	2	.1
800	520	15	.95	2	2	3	3	4	2947	2984	3023	2836	2875	2915	2	.1
800	560	15	.91	0	1	1	1	2	2908	2937	2967	2796	2826	2857	2	.1

Table 6-33. (Sheet 5)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM-M55 BALL
LOAD CONFIGURATION; ONLY CENTERLINE STATION LOADED
NOTE
WITH CENTERLINE AND 1 STA. ON EACH WING LOADED, INCREASE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
200	360	5	.85	5	7	8	9	11	2393	2688	3057	2385	2680	3051	1	.0
200	400	5	.74	4	5	6	7	8	2240	2436	2667	2231	2428	2660	1	.0
200	440	5	.67	2	3	4	5	6	2137	2273	2427	2127	2264	2419	1	.0
200	480	5	.62	1	2	3	3	4	2076	2175	2282	2067	2165	2273	1	.0
300	360	5	1.38	7	9	10	12	14	3498	3895	4371	3486	3883	4360	2	.0
300	400	5	1.20	5	7	8	9	10	3290	3560	3871	3277	3548	3860	2	.0
300	440	5	1.08	4	5	6	7	8	3148	3338	3551	3133	3325	3539	2	.0
300	480	5	1.00	3	3	4	5	6	3065	3204	3354	3050	3190	3340	2	.0
300	520	5	.91	1	1	2	3	3	2939	3039	3145	2924	3024	3130	2	.1
300	560	5	.85	-1	-1	0	1	1	2836	2919	3008	2820	2904	2993	1	.1
400	360	5	1.98	10	12	14	15	18	4523	4984	5512	4505	4968	5497	3	.1
400	400	5	1.72	8	9	10	12	13	4278	4602	4965	4259	4584	4948	3	.1
400	440	5	1.54	6	7	8	9	10	4108	4341	4596	4088	4322	4579	3	.1
400	480	5	1.43	4	5	6	7	8	4010	4181	4364	3990	4161	4346	2	.1
400	520	5	1.31	2	3	4	4	5	3855	3980	4111	3834	3960	4092	2	.1
400	560	5	1.21	0	1	1	2	3	3724	3830	3940	3703	3809	3920	2	.1
500	360	5	2.64	13	15	17	20	22	5455	5945	6478	5432	5924	6459	4	.1
500	400	5	2.29	10	12	13	15	17	5193	5548	5934	5169	5525	5913	4	.1
500	440	5	2.06	8	9	11	12	13	5007	5268	5550	4982	5245	5527	3	.1
500	480	5	1.91	7	8	8	9	10	4902	5095	5301	4876	5071	5277	3	.1
500	520	5	1.75	4	5	6	6	7	4726	4870	5022	4700	4845	4997	3	.1
500	560	5	1.62	2	3	3	4	5	4574	4697	4826	4547	4671	4800	3	.1
600	360	5	3.33	17	19	22	24	27	6288	6777	7288	6259	6750	7263	6	.1
600	400	5	2.92	14	15	17	19	21	6026	6392	6778	5996	6364	6751	5	.1
600	440	5	2.63	11	12	14	15	17	5837	6113	6403	5806	6083	6375	4	.1
600	480	5	2.45	9	10	11	12	13	5731	5938	6156	5700	5908	6126	4	.1
600	520	5	2.23	7	7	8	9	10	5546	5703	5866	5513	5671	5836	4	.1
600	560	5	2.07	4	5	5	6	7	5379	5515	5656	5346	5482	5624	3	.1
700	360	5	4.02	21	24	27	30	33	7022	7493	7976	6987	7460	7945	7	.1
700	400	5	3.57	17	19	21	24	26	6773	7134	7506	6737	7100	7474	6	.1
700	440	5	3.24	14	16	17	19	21	6592	6870	7157	6555	6834	7123	5	.1
700	480	5	3.02	12	14	15	16	17	6493	6704	6922	6455	6667	6887	5	.1
700	520	5	2.77	9	10	11	12	13	6306	6470	6639	6267	6432	6602	5	.1
700	560	5	2.56	6	7	8	9	10	6132	6276	6425	6092	6237	6386	4	.1
800	360	5	4.66	26	29	32	35	38	7668	8118	8575	7626	8078	8537	8	.1
800	400	5	4.20	22	24	26	28	31	7438	7786	8141	7394	7745	8102	7	.1
800	440	5	3.86	18	20	22	23	25	7271	7542	7819	7227	7499	7778	7	.1
800	480	5	3.62	16	17	19	20	21	7182	7391	7603	7138	7348	7561	6	.1
800	520	5	3.34	13	14	15	16	17	7004	7168	7336	6958	7123	7292	6	.1
800	560	5	3.09	9	10	11	12	13	6829	6976	7126	6782	6930	7081	5	.1
300	360	10	.55	5	6	7	8	9	1771	1874	1990	1745	1850	1967	1	.1
300	400	10	.51	3	4	5	6	7	1712	1786	1866	1686	1761	1842	1	.1
300	440	10	.48	2	3	3	4	5	1671	1725	1783	1644	1699	1757	1	.1
400	360	10	.77	5	6	8	9	10	2349	2483	2634	2314	2451	2603	1	.1
400	400	10	.71	4	5	6	7	8	2273	2369	2474	2237	2335	2441	1	.1
400	440	10	.67	2	3	4	5	6	2218	2289	2365	2182	2254	2331	1	.1
400	480	10	.64	1	2	3	3	4	2186	2239	2294	2150	2203	2259	1	.1
400	520	10	.61	-0	0	1	1	2	2136	2175	2216	2098	2138	2180	1	.1
400	560	10	.58	-2	-2	-1	-0	0	2092	2126	2161	2054	2088	2124	1	.1
500	360	10	1.01	6	7	8	10	11	2918	3083	3266	2875	3042	3228	2	.1
500	400	10	.93	5	5	6	7	8	2826	2944	3072	2781	2901	3031	2	.1
500	440	10	.87	3	4	5	6	6	2760	2847	2939	2714	2802	2896	1	.1
500	480	10	.83	2	3	3	4	5	2722	2786	2853	2675	2741	2809	1	.1
500	520	10	.79	0	1	1	2	3	2660	2708	2758	2612	2661	2713	1	.1
500	560	10	.75	-2	-1	-1	0	1	2605	2647	2690	2557	2599	2643	1	.1
400	360	15	.47	4	5	6	7	8	1569	1627	1689	1517	1577	1641	1	.1
500	360	15	.60	5	6	7	8	9	1958	2029	2106	1893	1967	2046	1	.1
500	400	15	.57	3	4	5	6	7	1916	1968	2024	1849	1904	1961	1	.1
600	360	15	.75	5	6	7	8	9	2344	2429	2520	2266	2353	2448	1	.1
600	400	15	.71	4	4	5	6	7	2294	2357	2423	2214	2279	2347	1	.1
600	440	15	.67	2	3	4	5	5	2258	2305	2354	2177	2226	2276	1	.1
600	480	15	.65	1	2	3	3	4	2237	2272	2309	2155	2192	2229	1	.1

Table 6-33. (Sheet 6)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM-M55 BALL
LOAD CONFIGURATION; ONLY CENTERLINE STATION LOADED
NOTE
WITH CENTERLINE AND 1 STA. ON EACH WING LOADED, INCREASE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS: SIGHT SETTING - MILS (NEG SETTING INDICATES ELEV)					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
700	360	15	.90	6	7	8	9	10	2727	2826	2931	2636	2738	2846	2	.1
700	400	15	.85	4	5	6	7	8	2670	2743	2819	2577	2652	2731	1	.1
700	440	15	.81	3	3	4	5	6	2629	2683	2740	2534	2590	2649	1	.1
700	480	15	.78	2	2	3	4	4	2605	2646	2688	2510	2552	2595	1	.1
700	520	15	.75	-0	1	1	2	2	2565	2596	2628	2468	2500	2533	1	.1
700	560	15	.72	-2	-1	-1	-0	0	2528	2555	2583	2429	2457	2486	1	.1
800	360	15	1.06	6	7	8	10	11	3109	3220	3339	3004	3119	3242	2	.1
800	400	15	1.00	5	6	7	8	8	3044	3126	3212	2937	3022	3111	2	.1
800	440	15	.96	3	4	5	6	6	2998	3059	3123	2889	2953	3019	2	.1
800	480	15	.92	2	3	4	4	5	2972	3018	3065	2862	2910	2958	2	.1
800	520	15	.88	0	1	2	2	3	2926	2961	2998	2815	2851	2889	1	.1
800	560	15	.85	-1	-1	-0	0	1	2883	2914	2945	2770	2802	2835	1	.1

Table 6-34. (Sheet 1)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM HEI
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
600	360	10	1.55	9	11	12	13	15	3533	3730	3948	3481	3682	3902	3	.1
600	400	10	1.41	8	9	10	11	12	3424	3569	3725	3371	3518	3677	2	.1
600	440	10	1.32	6	7	8	9	10	3350	3460	3577	3296	3408	3526	2	.1
600	480	10	1.25	5	6	7	7	8	3297	3382	3471	3242	3328	3419	2	.1
600	520	10	1.19	4	5	5	6	7	3256	3323	3392	3200	3268	3338	2	.1
800	360	10	2.38	14	16	17	19	21	4588	4819	5067	4518	4752	5004	4	.1
800	400	10	2.17	12	13	14	16	17	4463	4636	4819	4390	4566	4752	4	.1
800	440	10	2.02	10	11	12	13	14	4377	4510	4650	4304	4439	4581	3	.1
800	480	10	1.91	9	9	10	11	12	4315	4419	4527	4240	4346	4456	3	.1
800	520	10	1.82	7	8	9	9	10	4268	4350	4435	4193	4276	4362	3	.1
800	560	10	1.75	6	7	7	8	8	4241	4305	4371	4165	4230	4297	3	.1
1000	360	10	3.31	20	22	24	26	28	5537	5782	6039	5446	5695	5955	6	.2
1000	400	10	3.06	17	19	20	22	24	5409	5595	5789	5316	5505	5702	5	.2
1000	440	10	2.87	15	16	18	19	20	5322	5467	5618	5228	5375	5528	5	.2
1000	480	10	2.71	13	14	15	16	17	5259	5374	5492	5163	5280	5400	5	.2
1000	520	10	2.59	12	12	13	14	15	5212	5303	5397	5116	5208	5303	4	.2
1000	560	10	2.49	10	11	12	12	13	5185	5257	5330	5088	5161	5235	4	.2
900	360	15	1.49	9	10	11	13	14	3523	3651	3787	3407	3538	3679	3	.2
900	400	15	1.39	8	9	9	10	11	3452	3547	3647	3332	3431	3534	2	.2
900	440	15	1.32	6	7	8	9	10	3403	3476	3552	3281	3357	3436	2	.2
900	480	15	1.27	5	6	7	7	8	3367	3424	3483	3244	3303	3365	2	.2
900	520	15	1.22	4	5	5	6	6	3339	3384	3430	3216	3262	3310	2	.2
900	560	15	1.18	3	4	4	5	5	3323	3358	3394	3198	3235	3272	2	.2
1000	360	15	1.74	10	12	13	14	15	3895	4033	4181	3765	3907	4059	3	.2
1000	400	15	1.63	9	10	11	12	13	3818	3922	4031	3685	3792	3905	3	.2
1000	440	15	1.54	7	8	9	10	11	3765	3845	3928	3630	3713	3799	3	.2
1000	480	15	1.48	6	7	8	8	9	3726	3789	3853	3590	3654	3721	2	.2
1000	520	15	1.42	5	6	6	7	7	3697	3746	3797	3559	3610	3663	2	.2
1000	560	15	1.38	4	5	5	6	6	3679	3718	3757	3541	3581	3621	2	.2
1250	360	15	2.48	15	16	17	19	20	4793	4952	5120	4627	4792	4965	4	.2
1250	400	15	2.31	13	14	15	16	17	4707	4827	4953	4538	4662	4792	4	.2
1250	440	15	2.19	11	12	13	14	15	4647	4741	4838	4476	4573	4673	4	.2
1250	480	15	2.09	9	10	11	12	12	4604	4677	4753	4431	4507	4586	4	.2
1250	520	15	2.01	8	9	9	10	11	4571	4630	4689	4397	4458	4519	3	.2
1250	560	15	1.94	7	8	8	9	9	4551	4597	4643	4376	4423	4472	3	.2
1500	360	15	3.30	20	22	23	25	27	5635	5807	5987	5431	5610	5796	6	.3
1500	400	15	3.10	18	19	20	22	23	5544	5676	5812	5337	5474	5615	5	.2
1500	440	15	2.95	16	17	18	19	20	5483	5586	5692	5274	5381	5491	5	.2
1500	480	15	2.82	14	15	16	16	17	5438	5520	5603	5228	5312	5398	5	.2
1500	520	15	2.71	12	13	14	14	15	5406	5471	5537	5194	5261	5329	5	.2
1500	560	15	2.62	11	11	12	13	13	5386	5436	5488	5173	5225	5279	4	.2
1200	360	20	1.47	9	10	11	12	13	3537	3628	3724	3327	3424	3526	2	.2
1200	400	20	1.39	7	8	9	10	11	3485	3554	3626	3272	3345	3421	2	.2
1200	440	20	1.33	6	7	8	8	9	3449	3502	3558	3234	3290	3349	2	.2
1200	480	20	1.28	5	6	6	7	8	3422	3464	3507	3205	3250	3296	2	.2
1200	520	20	1.24	4	5	5	6	6	3402	3435	3469	3184	3219	3255	2	.2
1400	360	20	1.86	11	12	13	14	15	4103	4207	4316	3857	3967	4082	3	.2
1400	400	20	1.75	9	10	11	12	13	4045	4123	4205	3795	3879	3965	3	.2
1400	440	20	1.68	8	9	9	10	11	4005	4066	4129	3752	3817	3884	3	.2
1400	480	20	1.61	7	7	8	9	9	3975	4023	4072	3721	3772	3824	3	.2
1400	520	20	1.56	5	6	7	7	8	3953	3991	4030	3697	3737	3779	3	.2
1400	560	20	1.51	5	5	6	6	6	3939	3968	3998	3682	3713	3745	3	.2
1600	360	20	2.30	13	14	16	17	18	4657	4772	4891	4374	4495	4622	4	.3
1600	400	20	2.17	11	12	13	14	15	4594	4681	4771	4307	4399	4495	4	.3
1600	440	20	2.07	10	11	12	12	13	4551	4619	4689	4261	4333	4407	4	.3
1600	480	20	1.99	9	9	10	11	11	4519	4573	4627	4227	4284	4342	3	.3
1600	520	20	1.92	7	8	8	9	10	4496	4538	4581	4201	4246	4292	3	.3
1600	560	20	1.87	6	7	7	8	8	4480	4513	4546	4185	4220	4256	3	.2
1800	360	20	2.79	16	18	19	20	22	5196	5319	5448	4875	5006	5142	5	.3
1800	400	20	2.64	14	15	16	17	19	5130	5224	5321	4804	4904	5007	4	.3
1800	440	20	2.52	12	13	14	15	16	5085	5159	5234	4756	4834	4915	4	.3
1800	480	20	2.42	11	12	12	13	14	5052	5110	5169	4720	4782	4845	4	.3
1800	520	20	2.34	10	10	11	11	12	5028	5073	5120	4694	4743	4793	4	.3
1800	560	20	2.27	8	9	9	10	10	5011	5047	5083	4677	4715	4754	4	.3

Table 6-34. (Sheet 2)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM HEI
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED

NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 1 MIL

TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS: SIGHT SETTING - MILS (NEG SETTING INDICATES ELEV)					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
2000	360	20	3.31	20	21	23	24	26	5718	5849	5984	5357	5496	5639	6	.3
2000	400	20	3.14	17	19	20	21	22	5650	5750	5852	5284	5391	5500	5	.3
2000	440	20	3.01	15	16	17	18	19	5604	5682	5762	5235	5319	5404	5	.3
2000	480	20	2.89	14	15	15	16	17	5571	5632	5695	5199	5265	5332	5	.3
2000	520	20	2.80	12	13	14	14	15	5546	5595	5645	5173	5226	5279	5	.3
2000	560	20	2.71	11	11	12	12	13	5527	5565	5604	5153	5194	5235	5	.3
2200	360	30	2.01	11	12	13	14	15	4388	4452	4518	3797	3871	3947	3	.4
2200	400	30	1.93	9	10	11	12	12	4352	4401	4451	3755	3812	3870	3	.4
2200	440	30	1.86	8	8	9	10	11	4327	4366	4405	3726	3771	3816	3	.4
2200	480	30	1.80	7	7	8	8	9	4309	4339	4370	3705	3740	3776	3	.4
2200	520	30	1.75	6	6	7	7	8	4295	4319	4344	3689	3717	3745	3	.4
2200	560	30	1.70	4	5	5	6	6	4282	4301	4320	3674	3696	3718	3	.3
2400	360	30	2.32	12	13	14	15	16	4773	4842	4913	4126	4206	4287	4	.4
2400	400	30	2.22	11	11	12	13	14	4735	4788	4842	4082	4143	4205	4	.4
2400	440	30	2.14	9	10	11	11	12	4709	4751	4793	4052	4100	4149	4	.4
2400	480	30	2.07	8	9	9	10	10	4690	4722	4755	4029	4067	4105	3	.4
2400	520	30	2.01	7	7	8	8	9	4676	4702	4728	4013	4043	4073	3	.4
2400	560	30	1.95	6	6	6	7	7	4661	4681	4701	3995	4018	4042	3	.4
2600	360	30	2.66	14	15	16	17	18	5154	5228	5303	4451	4535	4622	4	.4
2600	400	30	2.54	12	13	14	15	16	5115	5171	5228	4405	4470	4536	4	.4
2600	440	30	2.45	11	12	12	13	14	5088	5132	5177	4373	4424	4476	4	.4
2600	480	30	2.37	9	10	11	11	12	5067	5102	5137	4349	4390	4431	4	.4
2600	520	30	2.30	8	9	9	10	10	5053	5081	5109	4333	4365	4397	4	.4
2600	560	30	2.23	7	7	8	8	9	5035	5057	5078	4312	4337	4362	4	.4
2800	360	30	3.01	16	17	18	20	21	5531	5608	5687	4770	4859	4950	5	.5
2800	400	30	2.89	14	15	16	17	18	5490	5549	5609	4722	4791	4861	5	.4
2800	440	30	2.78	13	13	14	15	16	5462	5509	5556	4690	4744	4799	5	.4
2800	480	30	2.69	11	12	12	13	14	5441	5478	5515	4665	4708	4751	5	.4
2800	520	30	2.62	10	10	11	12	12	5426	5456	5485	4648	4682	4717	4	.4
2800	560	30	2.54	8	9	9	10	10	5406	5429	5452	4625	4651	4678	4	.4
3000	360	30	3.37	19	20	21	22	23	5902	5983	6066	5083	5176	5272	6	.5
3000	400	30	3.24	16	17	18	19	20	5860	5922	5985	5033	5106	5179	5	.5
3000	440	30	3.13	15	16	16	17	18	5832	5880	5930	5001	5058	5115	5	.5
3000	480	30	3.03	13	14	14	15	16	5810	5849	5888	4976	5021	5066	5	.5
3000	520	30	2.95	12	12	13	13	14	5796	5827	5858	4959	4995	5031	5	.4
3000	560	30	2.86	10	10	11	11	12	5773	5797	5821	4933	4960	4988	5	.4
3500	360	30	4.31	25	27	28	29	31	6807	6895	6986	5838	5941	6046	7	.5
3500	400	30	4.16	23	24	25	26	27	6763	6831	6901	5787	5866	5947	7	.5
3500	440	30	4.03	21	22	23	24	24	6734	6788	6842	5753	5816	5879	7	.5
3500	480	30	3.92	19	20	20	21	22	6712	6755	6798	5728	5777	5828	7	.5
3500	520	30	3.83	17	18	19	19	20	6700	6734	6768	5713	5753	5793	6	.5
3500	560	30	3.71	15	16	16	17	17	6670	6696	6722	5678	5708	5739	6	.5
4000	360	30	5.28	33	35	36	38	39	7678	7773	7870	6554	6664	6777	9	.6
4000	400	30	5.11	30	32	33	34	35	7633	7707	7781	6501	6587	6674	9	.6
4000	440	30	4.97	28	29	30	31	32	7605	7662	7721	6468	6535	6604	8	.6
4000	480	30	4.85	26	27	28	28	29	7584	7630	7676	6444	6497	6551	8	.5
4000	520	30	4.74	24	25	25	26	27	7574	7610	7647	6432	6474	6517	8	.5
4000	560	30	4.61	21	22	22	23	23	7537	7564	7592	6388	6420	6453	8	.5
4500	360	30	6.27	42	43	45	47	48	8517	8616	8718	7231	7348	7466	11	.6
4500	400	30	6.09	39	40	41	43	44	8472	8549	8627	7178	7269	7361	10	.6
4500	440	30	5.93	36	37	38	39	40	8444	8505	8566	7145	7217	7289	10	.6
4500	480	30	5.80	34	35	36	36	37	8425	8473	8521	7123	7179	7236	10	.6
4500	520	30	5.69	32	33	33	34	35	8418	8456	8494	7114	7159	7204	10	.6
4500	560	30	5.54	29	29	30	30	31	8378	8407	8437	7067	7102	7136	9	.5
5000	360	30	7.27	51	53	55	56	58	9324	9427	9532	7870	7992	8115	12	.7
5000	400	30	7.07	48	49	51	52	53	9281	9360	9441	7819	7913	8009	12	.7
5000	440	30	6.91	45	46	47	48	49	9254	9317	9380	7787	7861	7937	12	.7
5000	480	30	6.77	42	43	44	45	46	9237	9286	9336	7766	7825	7885	11	.7
5000	520	30	6.65	40	41	42	42	43	9232	9272	9311	7761	7808	7855	11	.7
5000	560	30	6.49	36	37	38	38	39	9190	9221	9252	7711	7748	7784	11	.7
4000	360	45	2.96	12	13	14	15	16	5606	5644	5682	3928	3981	4035	5	.5
4000	400	45	2.87	11	11	12	13	14	5586	5615	5645	3899	3941	3983	5	.6
4000	440	45	2.79	9	10	11	11	12	5573	5596	5619	3880	3913	3946	5	.6
4000	480	45	2.71	8	9	9	10	10	5563	5581	5599	3866	3891	3917	5	.6
4000	520	45	2.64	7	8	8	8	9	5557	5571	5585	3857	3878	3898	4	.5

Table 6-34. (Sheet 3)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM HEI
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
4500	360	45	3.61	16	17	17	18	19	6286	6327	6369	4388	4447	4507	6	.7
4500	400	45	3.50	14	15	15	16	17	6265	6296	6329	4358	4404	4450	6	.7
4500	440	45	3.41	13	13	14	14	15	6251	6276	6301	4338	4374	4410	6	.7
4500	480	45	3.32	11	12	12	13	13	6240	6260	6280	4323	4351	4380	6	.6
4500	520	45	3.25	10	10	11	11	12	6235	6251	6266	4316	4338	4361	5	.6
4500	560	45	3.16	8	8	9	9	9	6213	6225	6238	4285	4302	4319	5	.6
5000	360	45	4.28	20	21	22	22	23	6957	7002	7047	4837	4901	4966	7	.7
5000	400	45	4.17	18	19	19	20	21	6935	6970	7005	4806	4856	4906	7	.7
5000	440	45	4.06	16	17	17	18	19	6921	6948	6975	4785	4824	4863	7	.7
5000	480	45	3.97	15	15	16	16	17	6910	6932	6953	4770	4801	4832	7	.7
5000	520	45	3.89	13	14	14	15	15	6906	6923	6940	4764	4788	4813	7	.7
5000	560	45	3.78	11	11	12	12	12	6882	6895	6908	4729	4748	4767	6	.7
5500	360	45	4.98	24	25	26	27	28	7620	7668	7716	5274	5343	5412	8	.8
5500	400	45	4.86	22	23	24	24	25	7598	7635	7672	5242	5295	5349	8	.8
5500	440	45	4.74	20	21	22	22	23	7583	7612	7641	5220	5262	5304	8	.8
5500	480	45	4.64	18	19	20	20	21	7573	7595	7618	5205	5238	5272	8	.8
5500	520	45	4.55	17	18	18	18	19	7568	7586	7604	5199	5225	5251	8	.7
5500	560	45	4.44	14	15	15	16	16	7542	7556	7570	5160	5181	5201	7	.7
6000	360	45	5.70	29	30	31	32	33	8275	8325	8376	5698	5771	5845	10	.8
6000	400	45	5.57	27	27	28	29	30	8252	8291	8330	5665	5722	5779	9	.8
6000	440	45	5.45	25	25	26	27	27	8237	8268	8299	5644	5688	5733	9	.8
6000	480	45	5.34	23	23	24	25	25	8227	8251	8276	5629	5664	5700	9	.8
6000	520	45	5.24	21	22	22	23	23	8223	8242	8260	5623	5650	5678	9	.8
6000	560	45	5.11	18	19	19	19	20	8191	8206	8221	5576	5598	5620	9	.8
7000	360	45	7.18	39	41	42	43	44	9559	9614	9669	6509	6589	6671	12	.9
7000	400	45	7.03	37	38	39	40	41	9536	9578	9622	6476	6538	6601	12	.9
7000	440	45	6.89	35	35	36	37	38	9521	9555	9588	6454	6503	6553	12	.9
7000	480	45	6.77	32	33	34	34	35	9512	9539	9565	6441	6480	6519	11	.9
7000	520	45	6.65	30	31	31	32	32	9503	9523	9544	6427	6457	6487	11	.9
7000	560	45	6.50	27	27	27	28	28	9465	9481	9498	6370	6395	6419	11	.9
8000	360	45	8.71	51	52	53	55	56	10810	10868	10928	7270	7357	7444	15	1.0
8000	400	45	8.54	48	49	50	51	52	10788	10833	10879	7237	7305	7373	14	1.0
8000	440	45	8.39	45	46	47	48	49	10774	10809	10845	7217	7269	7322	14	1.0
8000	480	45	8.26	43	44	44	45	46	10767	10795	10823	7207	7248	7290	14	1.0
8000	520	45	8.11	40	41	41	42	42	10748	10769	10791	7178	7209	7241	14	1.0
8000	560	45	7.94	36	36	37	37	38	10710	10728	10746	7121	7148	7175	13	.9
6500	360	60	4.62	14	15	15	16	17	7428	7448	7467	3596	3636	3676	8	.9
6500	400	60	4.52	13	13	14	14	15	7419	7434	7450	3577	3608	3640	8	.9
6500	440	60	4.43	11	12	12	13	13	7413	7425	7437	3565	3589	3614	7	.9
6500	480	60	4.34	10	10	11	11	12	7409	7419	7428	3556	3576	3595	7	.9
6500	520	60	4.26	9	9	10	10	10	7407	7414	7422	3552	3567	3582	7	.9
6500	560	60	4.16	6	7	7	7	7	7388	7394	7399	3511	3523	3536	7	.8
7000	360	60	5.20	17	17	18	19	19	7988	8009	8030	3849	3892	3934	9	1.0
7000	400	60	5.10	15	16	16	17	17	7979	7995	8011	3830	3863	3896	9	.9
7000	440	60	5.00	14	14	15	15	15	7973	7986	7998	3817	3843	3869	8	.9
7000	480	60	4.90	12	13	13	14	14	7969	7979	7989	3809	3830	3850	8	.9
7000	520	60	4.81	11	11	12	12	12	7965	7972	7980	3800	3815	3831	8	.9
7000	560	60	4.70	8	8	9	9	9	7944	7950	7956	3756	3769	3781	8	.9
7500	360	60	5.80	19	20	21	21	22	8546	8568	8590	4097	4142	4188	10	1.0
7500	400	60	5.69	18	18	19	19	20	8537	8554	8571	4078	4113	4148	10	1.0
7500	440	60	5.58	16	17	17	18	18	8531	8544	8557	4065	4092	4120	9	1.0
7500	480	60	5.48	15	15	16	16	16	8527	8537	8548	4057	4079	4100	9	1.0
7500	520	60	5.38	13	14	14	14	14	8520	8528	8536	4042	4058	4075	9	.9
7500	560	60	5.26	10	10	11	11	11	8498	8504	8511	3995	4009	4023	9	.9
8000	360	60	6.41	22	23	24	24	25	9102	9124	9147	4340	4388	4436	11	1.0
8000	400	60	6.29	20	21	22	22	23	9092	9110	9128	4321	4358	4395	11	1.0
8000	440	60	6.18	19	19	20	20	21	9086	9100	9114	4308	4337	4366	10	1.0
8000	480	60	6.07	17	18	18	19	19	9083	9094	9105	4301	4324	4347	10	1.0
8000	520	60	5.96	15	16	16	16	17	9072	9081	9089	4279	4296	4313	10	1.0
8000	560	60	5.84	12	13	13	13	14	9050	9057	9064	4232	4246	4261	10	1.0
8500	360	60	7.03	25	26	27	27	28	9655	9678	9702	4579	4628	4678	12	1.1
8500	400	60	6.90	23	24	25	25	26	9646	9664	9682	4559	4598	4637	12	1.1
8500	440	60	6.78	22	22	23	23	24	9639	9654	9668	4546	4576	4606	11	1.0
8500	480	60	6.67	20	21	21	21	22	9637	9648	9659	4540	4564	4588	11	1.0
8500	520	60	6.55	18	18	19	19	19	9623	9631	9640	4510	4528	4546	11	1.0
8500	560	60	6.43	15	15	15	16	16	9601	9608	9615	4463	4479	4495	11	1.0

Table 6-34. (Sheet 4)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM HEI
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS												
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
9000	360	60	7.65	28	29	30	30	31	10206	10230	10255	4812	4864	4916	13	1.1
9000	400	60	7.52	26	27	28	28	29	10196	10215	10235	4792	4833	4873	13	1.1
9000	440	60	7.40	25	25	26	26	27	10190	10205	10220	4779	4810	4842	12	1.1
9000	480	60	7.29	23	24	24	24	25	10188	10200	10212	4775	4800	4824	12	1.1
9000	520	60	7.16	21	21	21	22	22	10173	10181	10190	4741	4760	4779	12	1.1
9000	560	60	7.02	17	18	18	18	18	10149	10156	10164	4690	4706	4723	12	1.0
9500	360	60	8.29	31	32	33	34	35	10754	10780	10805	5040	5094	5148	14	1.2
9500	400	60	8.15	29	30	31	31	32	10745	10765	10784	5020	5062	5104	14	1.1
9500	440	60	8.03	28	28	29	29	30	10739	10754	10770	5007	5040	5073	14	1.1
9500	480	60	7.91	26	27	27	27	28	10738	10750	10762	5005	5031	5056	13	1.1
9500	520	60	7.77	23	24	24	24	25	10720	10730	10739	4968	4987	5007	13	1.1
9500	560	60	7.63	20	20	20	21	21	10695	10703	10711	4912	4929	4946	13	1.1
10000	360	60	8.94	35	36	36	37	38	11301	11327	11353	5264	5320	5376	15	1.2
10000	400	60	8.79	33	33	34	35	35	11291	11312	11332	5244	5287	5331	15	1.2
10000	440	60	8.66	31	31	32	32	33	11285	11301	11317	5231	5265	5299	15	1.2
10000	480	60	8.54	29	30	30	30	31	11285	11297	11309	5229	5256	5282	14	1.1
10000	520	60	8.39	26	27	27	27	28	11265	11275	11284	5187	5208	5228	14	1.1
10000	560	60	8.24	22	23	23	23	24	11238	11247	11255	5128	5146	5165	14	1.1
11000	360	60	10.24	41	42	43	44	45	12387	12415	12443	5696	5756	5816	17	1.2
11000	400	60	10.09	39	40	41	41	42	12378	12399	12421	5676	5722	5769	17	1.2
11000	440	60	9.95	37	38	38	39	39	12373	12389	12406	5664	5700	5736	17	1.2
11000	480	60	9.81	35	36	36	37	37	12372	12384	12397	5662	5690	5717	17	1.2
11000	520	60	9.65	32	32	32	33	33	12344	12354	12364	5602	5624	5646	16	1.2
11000	560	60	9.49	28	28	29	29	29	12319	12328	12337	5547	5567	5587	16	1.2
12000	360	60	11.57	48	49	50	51	52	13466	13495	13524	6110	6173	6237	20	1.3
12000	400	60	11.41	46	47	47	48	49	13457	13479	13501	6090	6139	6188	19	1.3
12000	440	60	11.25	44	44	45	45	46	13452	13469	13487	6079	6117	6156	19	1.3
12000	480	60	11.10	41	42	42	43	43	13445	13458	13471	6064	6093	6122	19	1.2
12000	520	60	10.92	37	38	38	38	39	13415	13426	13436	5997	6021	6045	18	1.2
12000	560	60	10.76	33	34	34	34	35	13392	13401	13411	5944	5966	5988	18	1.2

Table 6-34. (Sheet 5)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM HEI
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	SIGHT SETTING - MILS (NEG SETTING INDICATES ELEV) 12.0	14.0	16.0	18.0	20.0	SLANT RANGE - FEET 12.0	16.0	20.0	HORIZONTAL RANGE - FT 12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS												
600	360	10	1.42	9	10	11	13	14	3547	3748	3970	3496	3699	3924	2	.1
600	400	10	1.30	7	8	9	10	11	3436	3582	3739	3383	3531	3690	2	.1
600	440	10	1.21	6	7	7	8	9	3359	3469	3584	3305	3416	3534	2	.1
600	480	10	1.15	4	5	6	7	7	3303	3386	3473	3248	3332	3421	2	.1
600	520	10	1.10	3	4	5	5	6	3266	3330	3395	3211	3275	3342	2	.1
800	360	10	2.13	12	14	15	17	18	4633	4875	5138	4563	4809	5076	4	.1
800	400	10	1.94	10	11	13	14	15	4500	4678	4869	4428	4609	4803	3	.1
800	440	10	1.81	9	9	10	11	12	4408	4543	4686	4334	4472	4617	3	.1
800	480	10	1.71	7	8	9	9	10	4340	4444	4552	4265	4371	4481	3	.1
800	520	10	1.64	6	7	7	8	8	4295	4375	4457	4220	4301	4384	3	.1
800	560	10	1.53	3	4	4	5	6	4181	4241	4303	4104	4165	4228	3	.1
1000	360	10	2.98	17	19	21	23	25	5636	5901	6181	5547	5815	6100	5	.1
1000	400	10	2.72	14	16	17	19	20	5494	5693	5902	5402	5605	5817	5	.1
1000	440	10	2.53	12	13	15	16	17	5395	5548	5707	5302	5457	5619	4	.1
1000	480	10	2.39	11	11	12	13	14	5322	5441	5563	5227	5348	5472	4	.1
1000	520	10	2.28	9	10	11	11	12	5274	5365	5458	5178	5271	5366	4	.1
1000	560	10	2.12	6	7	7	8	9	5139	5209	5281	5041	5112	5185	4	.1
900	360	15	1.36	8	10	11	12	13	3533	3661	3798	3416	3548	3690	2	.2
900	400	15	1.28	7	8	9	10	11	3460	3555	3655	3341	3439	3542	2	.2
900	440	15	1.22	6	6	7	8	9	3409	3481	3556	3288	3363	3441	2	.2
900	480	15	1.17	4	5	6	6	7	3371	3427	3484	3249	3306	3366	2	.2
900	520	15	1.12	3	4	5	5	6	3346	3388	3432	3223	3267	3312	2	.1
900	560	15	1.07	1	2	2	3	3	3281	3313	3347	3155	3189	3223	2	.1
1000	360	15	1.58	9	11	12	13	14	3910	4049	4198	3779	3924	4077	3	.2
1000	400	15	1.48	8	9	10	11	12	3831	3934	4043	3698	3805	3918	2	.2
1000	440	15	1.41	6	7	8	9	10	3775	3854	3937	3640	3722	3807	2	.2
1000	480	15	1.35	5	6	7	7	8	3734	3795	3858	3598	3661	3726	2	.2
1000	520	15	1.30	4	5	5	6	6	3707	3753	3801	3569	3618	3667	2	.2
1000	560	15	1.23	2	2	3	3	4	3634	3670	3707	3494	3531	3569	2	.2
1250	360	15	2.20	13	14	15	17	18	4828	4993	5167	4664	4834	5014	4	.2
1250	400	15	2.05	11	12	13	14	15	4737	4860	4989	4569	4697	4830	3	.2
1250	440	15	1.94	9	10	11	12	13	4673	4767	4865	4503	4600	4702	3	.2
1250	480	15	1.86	8	8	9	10	11	4626	4699	4774	4454	4530	4608	3	.2
1250	520	15	1.79	6	7	8	8	9	4593	4649	4706	4420	4478	4537	3	.2
1250	560	15	1.69	4	4	5	5	6	4503	4546	4590	4326	4371	4417	3	.2
1500	360	15	2.93	17	18	20	21	23	5705	5887	6078	5504	5693	5890	5	.2
1500	400	15	2.73	14	16	17	18	19	5607	5745	5888	5403	5545	5694	5	.2
1500	440	15	2.58	12	13	14	15	16	5538	5644	5753	5331	5441	5554	4	.2
1500	480	15	2.47	11	12	12	13	14	5487	5570	5655	5278	5364	5452	4	.2
1500	520	15	2.37	9	10	11	11	12	5450	5513	5578	5240	5305	5372	4	.2
1500	560	15	2.23	6	7	7	8	9	5346	5395	5446	5131	5183	5235	4	.2
1200	360	20	1.34	8	9	10	11	12	3543	3635	3731	3334	3431	3533	2	.2
1200	400	20	1.28	7	8	8	9	10	3491	3559	3631	3278	3351	3427	2	.2
1200	440	20	1.22	5	6	7	8	8	3454	3506	3560	3239	3294	3352	2	.2
1200	480	20	1.18	4	5	6	6	7	3426	3467	3509	3209	3252	3297	2	.2
1200	520	20	1.14	3	4	4	5	5	3407	3438	3470	3189	3222	3256	2	.2
1200	560	20	1.09	1	1	2	2	3	3355	3379	3404	3133	3159	3185	2	.2
1400	360	20	1.67	10	11	12	13	14	4116	4220	4330	3870	3981	4097	3	.2
1400	400	20	1.58	8	9	10	11	12	4056	4135	4216	3807	3891	3977	3	.2
1400	440	20	1.52	7	7	8	9	10	4014	4074	4136	3762	3826	3892	3	.2
1400	480	20	1.46	5	6	7	7	8	3983	4030	4078	3729	3779	3830	2	.2
1400	520	20	1.41	4	5	5	6	7	3961	3997	4033	3706	3744	3783	2	.2
1400	560	20	1.35	2	2	3	3	4	3899	3927	3956	3639	3669	3700	2	.2
1600	360	20	2.04	11	13	14	15	16	4679	4795	4917	4397	4521	4650	3	.2
1600	400	20	1.93	10	11	12	13	14	4614	4702	4793	4328	4421	4518	3	.2
1600	440	20	1.85	8	9	10	11	12	4568	4635	4704	4278	4350	4424	3	.2
1600	480	20	1.78	7	8	8	9	10	4534	4586	4640	4242	4298	4355	3	.2
1600	520	20	1.71	6	6	7	7	8	4507	4547	4588	4214	4256	4299	3	.2
1600	560	20	1.63	3	4	4	4	5	4438	4469	4501	4139	4173	4207	3	.2
1800	360	20	2.46	14	15	16	17	19	5232	5359	5491	4913	5047	5188	4	.3
1800	400	20	2.32	12	13	14	15	16	5162	5258	5357	4838	4941	5046	4	.3
1800	440	20	2.21	10	11	12	13	14	5113	5186	5262	4785	4864	4945	4	.3
1800	480	20	2.13	9	9	10	11	12	5077	5134	5193	4747	4808	4871	4	.2
1800	520	20	2.05	7	8	8	9	10	5045	5089	5133	4713	4760	4807	3	.2
1800	560	20	1.95	4	5	5	6	6	4969	5004	5039	4632	4669	4707	3	.2

Table 6-34. (Sheet 6)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM HEI
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
2000	360	20	2.91	16	18	19	20	22	5772	5907	6048	5415	5559	5708	5	.3
2000	400	20	2.75	14	15	16	17	19	5699	5802	5908	5337	5446	5559	5	.3
2000	440	20	2.62	12	13	14	15	16	5647	5727	5808	5281	5366	5453	4	.3
2000	480	20	2.52	11	11	12	13	14	5610	5672	5735	5241	5308	5375	4	.3
2000	520	20	2.42	9	10	10	11	11	5573	5620	5668	5202	5253	5304	4	.3
2000	560	20	2.30	6	7	7	8	8	5492	5530	5568	5115	5155	5196	4	.3
2200	360	30	1.80	9	10	11	12	13	4397	4462	4528	3807	3882	3958	3	.3
2200	400	30	1.73	8	9	10	10	11	4361	4410	4460	3765	3822	3880	3	.3
2200	440	30	1.67	7	7	8	9	9	4334	4372	4411	3735	3778	3823	3	.3
2200	480	30	1.62	5	6	7	7	8	4315	4345	4375	3712	3747	3781	3	.3
2200	520	30	1.57	4	4	5	5	6	4295	4317	4340	3688	3714	3741	3	.3
2200	560	30	1.51	1	2	2	3	3	4252	4270	4288	3638	3659	3681	3	.3
2400	360	30	2.05	10	12	13	14	15	4787	4856	4928	4142	4222	4304	3	.4
2400	400	30	1.97	9	10	11	12	12	4748	4801	4855	4097	4158	4220	3	.3
2400	440	30	1.90	8	8	9	10	10	4720	4761	4802	4064	4112	4159	3	.3
2400	480	30	1.84	6	7	8	8	9	4700	4731	4764	4041	4078	4115	3	.3
2400	520	30	1.78	5	5	6	6	7	4676	4700	4724	4013	4041	4069	3	.3
2400	560	30	1.71	2	3	3	3	4	4629	4649	4669	3959	3981	4004	3	.3
2600	360	30	2.33	12	13	14	15	16	5174	5248	5324	4473	4558	4646	4	.4
2600	400	30	2.23	10	11	12	13	14	5133	5189	5247	4426	4491	4558	4	.4
2600	440	30	2.15	9	9	10	11	12	5103	5146	5191	4391	4441	4493	4	.4
2600	480	30	2.08	7	8	9	9	10	5082	5116	5151	4366	4406	4446	4	.4
2600	520	30	2.01	6	6	7	7	8	5054	5080	5106	4334	4364	4394	3	.3
2600	560	30	1.93	3	3	4	4	5	5005	5026	5048	4277	4302	4327	3	.3
2800	360	30	2.63	13	14	16	17	18	5557	5636	5716	4800	4891	4984	4	.4
2800	400	30	2.51	12	12	13	14	15	5514	5574	5636	4751	4820	4891	4	.4
2800	440	30	2.42	10	11	11	12	13	5483	5529	5576	4714	4768	4822	4	.4
2800	480	30	2.34	9	9	10	11	11	5461	5498	5534	4689	4731	4774	4	.4
2800	520	30	2.26	7	7	8	8	9	5430	5457	5485	4652	4684	4716	4	.4
2800	560	30	2.17	4	4	5	5	6	5379	5402	5425	4593	4620	4646	4	.4
3000	360	30	2.95	15	16	17	18	20	5937	6019	6104	5123	5218	5316	5	.4
3000	400	30	2.82	13	14	15	16	17	5892	5955	6020	5071	5145	5219	5	.4
3000	440	30	2.71	11	12	13	14	15	5860	5909	5958	5034	5090	5148	5	.4
3000	480	30	2.62	10	11	11	12	13	5838	5876	5915	5008	5053	5098	4	.4
3000	520	30	2.53	8	8	9	10	10	5803	5832	5861	4967	5001	5034	4	.4
3000	560	30	2.43	5	6	6	7	7	5751	5775	5799	4906	4934	4962	4	.4
3500	360	30	3.81	20	21	23	24	25	6866	6957	7051	5907	6013	6121	6	.5
3500	400	30	3.65	18	19	20	21	22	6819	6890	6961	5853	5934	6017	6	.5
3500	440	30	3.52	16	17	18	18	19	6785	6839	6895	5813	5876	5940	6	.4
3500	480	30	3.41	14	15	16	16	17	6764	6806	6849	5788	5837	5887	6	.4
3500	520	30	3.28	12	12	13	13	14	6719	6751	6783	5735	5773	5810	6	.4
3500	560	30	3.15	9	9	10	10	11	6665	6692	6719	5672	5704	5736	5	.4
4000	360	30	4.71	26	28	29	30	32	7765	7864	7965	6656	6771	6888	8	.5
4000	400	30	4.54	24	25	26	27	28	7717	7793	7871	6600	6689	6779	8	.5
4000	440	30	4.39	21	22	23	24	25	7683	7742	7801	6560	6628	6698	7	.5
4000	480	30	4.27	19	20	21	22	22	7663	7709	7755	6536	6590	6644	7	.5
4000	520	30	4.12	17	17	18	18	19	7614	7649	7684	6479	6520	6561	7	.5
4000	560	30	3.97	13	14	14	15	15	7555	7585	7615	6409	6444	6480	7	.5
4500	360	30	5.64	33	35	36	38	39	8634	8739	8845	7369	7491	7615	10	.6
4500	400	30	5.45	30	32	33	34	35	8586	8667	8748	7312	7407	7502	9	.5
4500	440	30	5.29	28	29	30	31	32	8552	8615	8678	7273	7346	7420	9	.5
4500	480	30	5.16	26	26	27	28	29	8535	8584	8633	7253	7309	7367	9	.5
4500	520	30	4.99	22	23	24	24	25	8483	8520	8557	7191	7234	7278	8	.5
4500	560	30	4.82	18	19	20	20	21	8419	8451	8484	7115	7153	7192	8	.5
5000	360	30	6.58	41	43	44	46	48	9474	9583	9694	8047	8175	8305	11	.6
5000	400	30	6.38	38	39	40	42	43	9426	9510	9595	7991	8090	8190	11	.6
5000	440	30	6.21	35	36	37	38	39	9394	9459	9525	7953	8029	8107	10	.6
5000	480	30	6.06	33	33	34	35	36	9378	9429	9479	7934	7994	8054	10	.6
5000	520	30	5.87	29	29	30	31	31	9322	9361	9400	7866	7914	7960	10	.6
5000	560	30	5.69	24	25	26	26	27	9256	9291	9325	7789	7830	7872	10	.6
4000	360	45	2.57	10	11	12	13	13	5619	5656	5695	3946	3999	4053	4	.5
4000	400	45	2.49	9	9	10	11	11	5598	5627	5657	3917	3958	4000	4	.5
4000	440	45	2.42	7	8	8	9	10	5583	5605	5628	3895	3927	3959	4	.5
4000	480	45	2.35	6	7	7	8	8	5574	5591	5609	3882	3907	3932	4	.5

Table 6-34. (Sheet 7)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM HEI
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	Sight setting – mils (neg setting indicates elev), 12.0	14.0	16.0	18.0	20.0	Slant range – feet, 12.0	16.0	20.0	Horizontal range – ft, 12.0	16.0	20.0	Wind corrections factors FT/KT	MIL/KT
4500	360	45	3.13	12	13	14	15	16	6306	6347	6390	4417	4476	4536	5	.6
4500	400	45	3.03	11	12	12	13	14	6284	6316	6348	4386	4432	4478	5	.5
4500	440	45	2.94	9	10	11	11	12	6268	6292	6317	4363	4398	4434	5	.5
4500	480	45	2.86	8	9	9	10	10	6259	6278	6297	4350	4377	4405	5	.6
4500	520	45	2.77	6	6	7	7	8	6232	6247	6261	4312	4333	4354	5	.5
4500	560	45	2.68	3	4	4	4	5	6199	6211	6224	4263	4281	4300	5	.5
5000	360	45	3.74	15	16	17	18	19	6986	7032	7078	4879	4944	5009	6	.6
5000	400	45	3.63	14	14	15	16	17	6963	6998	7033	4846	4896	4946	6	.6
5000	440	45	3.52	12	13	13	14	14	6946	6973	7000	4822	4861	4899	6	.6
5000	480	45	3.42	11	11	12	12	13	6937	6958	6979	4809	4839	4869	6	.5
5000	520	45	3.31	8	9	9	9	10	6907	6923	6939	4765	4788	4811	6	.6
5000	560	45	3.20	5	5	6	6	7	6871	6885	6899	4712	4733	4753	5	.6
5500	360	45	4.38	19	20	21	22	23	7660	7708	7758	5331	5401	5471	7	.7
5500	400	45	4.25	17	18	18	19	20	7636	7673	7711	5297	5350	5404	7	.7
5500	440	45	4.14	15	16	16	17	18	7619	7647	7677	5272	5313	5355	7	.7
5500	480	45	4.03	13	14	14	15	16	7609	7631	7653	5258	5290	5322	7	.6
5500	520	45	3.90	10	11	11	12	12	7573	7590	7608	5206	5231	5256	7	.6
5500	560	45	3.78	7	8	8	9	9	7537	7552	7567	5153	5175	5198	6	.5
6000	360	45	5.04	22	23	24	25	26	8326	8377	8430	5772	5846	5921	9	.7
6000	400	45	4.90	20	21	22	23	24	8301	8341	8381	5736	5794	5851	8	.7
6000	440	45	4.77	18	19	20	20	21	8284	8315	8345	5712	5756	5801	8	.7
6000	480	45	4.66	17	17	18	18	19	8274	8297	8321	5697	5731	5765	8	.7
6000	520	45	4.52	13	14	14	15	15	8232	8250	8269	5636	5663	5690	8	.7
6000	560	45	4.39	10	10	11	11	12	8196	8212	8229	5583	5607	5631	7	.7
7000	360	45	6.41	31	32	33	34	35	9635	9692	9750	6621	6703	6787	11	.8
7000	400	45	6.25	28	29	30	31	32	9610	9653	9697	6584	6647	6711	11	.8
7000	440	45	6.10	26	27	28	28	29	9593	9627	9661	6560	6609	6659	10	.8
7000	480	45	5.96	24	24	25	25	26	9575	9600	9626	6533	6570	6607	10	.8
7000	520	45	5.80	20	20	21	21	22	9528	9549	9570	6464	6494	6525	10	.8
7000	560	45	5.65	16	17	17	18	18	9492	9511	9530	6411	6439	6467	10	.7
8000	360	45	7.81	40	41	43	44	45	10915	10976	11038	7426	7515	7606	13	.9
8000	400	45	7.63	37	38	39	40	41	10890	10936	10984	7388	7457	7526	13	.9
8000	440	45	7.48	35	36	36	37	38	10875	10911	10947	7366	7419	7473	13	.9
8000	480	45	7.31	32	32	33	33	34	10845	10872	10899	7322	7362	7402	12	.8
8000	520	45	7.13	28	28	29	29	30	10800	10823	10846	7256	7290	7324	12	.8
8000	560	45	6.96	24	24	25	25	26	10762	10782	10803	7198	7229	7260	12	.8
6500	360	60	4.03	11	11	12	12	13	7443	7462	7482	3625	3666	3706	7	.8
6500	400	60	3.93	9	10	10	11	11	7433	7448	7463	3606	3636	3667	7	.8
6500	440	60	3.83	8	8	9	9	10	7426	7438	7450	3592	3616	3640	6	.8
6500	480	60	3.73	7	7	7	8	8	7421	7430	7439	3580	3599	3617	6	.7
7000	360	60	4.56	13	13	14	14	15	8007	8027	8048	3887	3929	3972	8	.8
7000	400	60	4.44	11	12	12	13	13	7997	8012	8029	3866	3899	3932	7	.8
7000	440	60	4.34	10	10	11	11	11	7990	8002	8015	3852	3877	3903	7	.8
7000	480	60	4.23	8	8	9	9	10	7982	7991	8000	3835	3854	3873	7	.8
7000	520	60	4.12	5	6	6	6	6	7957	7965	7972	3784	3799	3815	7	.8
7000	560	60	4.01	2	3	3	3	4	7937	7944	7951	3742	3757	3771	7	.8
7500	360	60	5.10	15	15	16	17	17	8569	8590	8613	4144	4189	4234	9	.9
7500	400	60	4.97	13	14	14	15	15	8558	8575	8592	4122	4157	4192	8	.9
7500	440	60	4.86	12	12	12	13	13	8551	8564	8578	4108	4135	4162	8	.8
7500	480	60	4.75	10	10	10	11	11	8540	8550	8560	4085	4105	4125	8	.8
7500	520	60	4.63	7	7	7	8	8	8515	8523	8532	4033	4050	4067	8	.8
7500	560	60	4.51	4	4	4	5	5	8494	8502	8509	3988	4004	4019	8	.8
8000	360	60	5.65	17	18	18	19	20	9128	9152	9175	4396	4444	4492	10	.9
8000	400	60	5.52	15	16	16	17	17	9118	9135	9153	4374	4411	4448	9	.9
8000	440	60	5.40	14	14	15	15	15	9111	9125	9139	4361	4389	4418	9	.9
8000	480	60	5.28	11	12	12	13	13	9096	9107	9117	4330	4351	4372	9	.9
8000	520	60	5.15	8	9	9	9	10	9072	9080	9089	4277	4296	4314	9	.8
8000	560	60	5.02	5	6	6	6	7	9049	9057	9065	4230	4246	4263	8	.8
8500	360	60	6.21	19	20	21	21	22	9686	9710	9735	4645	4695	4745	10	.9
8500	400	60	6.07	17	18	19	19	20	9675	9694	9712	4622	4661	4699	10	.9
8500	440	60	5.95	16	16	17	17	18	9670	9684	9698	4610	4640	4669	10	.9
8500	480	60	5.82	13	14	14	15	15	9652	9663	9673	4573	4595	4617	10	.9
8500	520	60	5.68	10	11	11	11	12	9626	9635	9644	4518	4537	4556	10	.9
8500	560	60	5.55	7	7	8	8	8	9602	9611	9619	4467	4485	4502	9	.9

Table 6-34. (Sheet 8)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM HEI
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
9000	360	60	6.78	22	22	23	24	25	10242	10267	10293	4889	4942	4994	11	1.0
9000	400	60	6.64	20	20	21	22	22	10231	10250	10270	4866	4906	4946	11	1.0
9000	440	60	6.51	18	19	19	20	20	10226	10241	10255	4855	4886	4917	11	.9
9000	480	60	6.37	16	16	16	17	17	10207	10218	10229	4814	4837	4860	11	.9
9000	520	60	6.22	12	12	13	13	14	10178	10188	10197	4754	4774	4795	10	.9
9000	560	60	6.08	9	9	9	10	10	10154	10163	10172	4702	4721	4739	10	.9
9500	360	60	7.36	24	25	26	26	27	10796	10822	10849	5129	5184	5239	12	1.0
9500	400	60	7.21	22	23	23	24	25	10785	10805	10825	5105	5147	5189	12	1.0
9500	440	60	7.08	21	21	22	22	23	10781	10796	10811	5096	5128	5160	12	1.0
9500	480	60	6.93	18	18	19	19	19	10759	10771	10782	5051	5075	5099	12	1.0
9500	520	60	6.77	14	14	15	15	16	10729	10739	10749	4985	5007	5029	11	.9
9500	560	60	6.63	11	11	11	12	12	10706	10715	10724	4936	4955	4975	11	.9
10000	360	60	7.94	27	28	28	29	30	11348	11375	11402	5364	5421	5478	13	1.0
10000	400	60	7.79	25	25	26	27	27	11337	11357	11378	5341	5384	5427	13	1.0
10000	440	60	7.65	23	24	24	25	25	11333	11348	11364	5332	5365	5397	13	1.0
10000	480	60	7.49	20	20	21	21	21	11307	11319	11331	5277	5302	5327	13	1.0
10000	520	60	7.33	16	17	17	17	18	11277	11288	11298	5213	5235	5258	12	1.0
10000	560	60	7.18	13	13	14	14	14	11255	11265	11274	5165	5186	5207	12	1.0
11000	360	60	9.13	32	33	34	35	36	12446	12474	12503	5822	5883	5944	15	1.1
11000	400	60	8.96	30	31	31	32	33	12435	12457	12478	5799	5845	5891	15	1.1
11000	440	60	8.81	28	29	29	30	30	12430	12446	12463	5788	5823	5858	15	1.1
11000	480	60	8.62	24	25	25	25	26	12395	12408	12421	5713	5741	5768	15	1.0
11000	520	60	8.46	20	21	21	22	22	12367	12378	12390	5652	5677	5701	14	1.0
11000	560	60	8.30	17	18	18	18	19	12349	12360	12370	5613	5636	5658	14	1.0
12000	360	60	10.33	38	39	40	40	41	13537	13567	13597	6264	6329	6393	17	1.1
12000	400	60	10.15	36	36	37	38	38	13526	13549	13572	6242	6291	6340	17	1.1
12000	440	60	9.98	33	33	34	34	35	13514	13530	13547	6214	6251	6287	17	1.1
12000	480	60	9.78	29	29	30	30	31	13478	13492	13506	6137	6167	6197	17	1.1
12000	520	60	9.60	25	25	26	26	27	13449	13462	13474	6074	6101	6128	16	1.1
12000	560	60	9.44	22	22	23	23	24	13437	13449	13460	6047	6072	6097	16	1.1

Table 6-34. (Sheet 9)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM HEI
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED

NOTE

WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS: SIGHT SETTING - MILS, NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
600	360	10	1.31	8	9	11	12	13	3557	3757	3980	3506	3709	3934	2	.1
600	400	10	1.20	7	8	9	10	11	3443	3588	3743	3391	3537	3695	2	.1
600	440	10	1.13	5	6	7	8	9	3362	3468	3581	3308	3416	3531	2	.1
600	480	10	1.07	4	5	5	6	7	3308	3386	3469	3253	3333	3416	2	.1
800	360	10	1.93	11	12	14	15	17	4663	4911	5183	4594	4846	5121	3	.1
800	400	10	1.76	9	10	11	12	14	4524	4704	4898	4453	4636	4832	3	.1
800	440	10	1.64	7	8	9	10	11	4424	4558	4700	4351	4488	4631	3	.1
800	480	10	1.56	6	7	7	8	9	4357	4456	4559	4283	4384	4489	3	.1
800	520	10	1.44	3	4	4	5	6	4212	4285	4362	4135	4210	4288	2	.1
800	560	10	1.35	0	1	2	2	3	4092	4156	4221	4013	4078	4144	2	.1
1000	360	10	2.65	15	16	18	20	21	5708	5989	6290	5620	5905	6210	4	.1
1000	400	10	2.42	12	14	15	16	18	5552	5759	5979	5461	5672	5895	4	.1
1000	440	10	2.25	10	11	12	13	14	5441	5596	5759	5348	5506	5672	4	.1
1000	480	10	2.13	9	9	10	11	12	5364	5480	5600	5270	5388	5510	4	.1
1000	520	10	1.96	5	6	7	7	8	5190	5278	5368	5093	5182	5274	3	.1
1000	560	10	1.83	2	3	4	4	5	5054	5129	5207	4954	5031	5110	3	.1
900	360	15	1.26	8	9	10	11	13	3539	3666	3802	3422	3554	3694	2	.1
900	400	15	1.19	6	7	8	9	10	3465	3558	3657	3346	3442	3544	2	.1
900	440	15	1.13	5	6	7	7	8	3411	3481	3554	3290	3363	3438	2	.1
900	480	15	1.08	4	4	5	6	6	3374	3426	3480	3252	3306	3362	2	.1
1000	360	15	1.45	9	10	11	12	14	3919	4058	4207	3789	3933	4087	2	.1
1000	400	15	1.36	7	8	9	10	11	3838	3940	4049	3705	3811	3923	2	.1
1000	440	15	1.29	6	6	7	8	9	3780	3857	3937	3645	3725	3808	2	.1
1000	480	15	1.24	4	5	6	6	7	3739	3796	3855	3603	3662	3723	2	.1
1000	520	15	1.17	2	2	3	3	4	3649	3693	3737	3509	3555	3601	2	.1
1000	560	15	1.12	-1	-0	0	1	1	3578	3615	3654	3435	3474	3515	2	.1
1250	360	15	1.98	11	12	14	15	16	4852	5019	5196	4688	4860	5044	3	.2
1250	400	15	1.85	9	10	11	13	14	4756	4880	5009	4589	4717	4851	3	.2
1250	440	15	1.75	8	9	9	10	11	4688	4781	4877	4518	4614	4714	3	.2
1250	480	15	1.67	6	7	8	8	9	4637	4706	4777	4466	4537	4611	3	.2
1250	520	15	1.58	3	4	5	5	6	4527	4580	4634	4351	4406	4462	3	.2
1250	560	15	1.50	1	1	2	2	3	4442	4489	4536	4263	4311	4360	3	.2
1500	360	15	2.58	14	16	17	19	20	5755	5943	6143	5556	5751	5957	4	.2
1500	400	15	2.41	12	13	14	16	17	5648	5789	5936	5445	5591	5743	4	.2
1500	440	15	2.28	10	11	12	13	14	5572	5679	5789	5366	5477	5591	4	.2
1500	480	15	2.17	9	9	10	11	12	5510	5589	5670	5302	5384	5468	4	.2
1500	520	15	2.04	5	6	7	7	8	5384	5445	5508	5171	5234	5300	3	.2
1500	560	15	1.94	3	3	4	4	5	5290	5344	5399	5072	5129	5186	3	.2
1200	360	20	1.25	8	9	10	11	12	3548	3638	3734	3339	3435	3536	2	.2
1200	400	20	1.18	6	7	8	9	10	3494	3561	3632	3282	3353	3428	2	.2
1200	440	20	1.14	5	6	6	7	8	3455	3506	3559	3240	3294	3350	2	.2
1200	480	20	1.09	4	4	5	5	6	3427	3465	3504	3210	3251	3292	2	.2
1400	360	20	1.53	9	10	11	12	13	4124	4228	4337	3879	3990	4105	3	.2
1400	400	20	1.45	7	8	9	10	11	4063	4140	4221	3814	3896	3982	2	.2
1400	440	20	1.39	6	7	7	8	9	4019	4077	4138	3767	3830	3894	2	.2
1400	480	20	1.34	4	5	6	6	7	3984	4028	4072	3730	3777	3824	2	.2
1400	520	20	1.27	2	2	3	3	4	3911	3945	3980	3652	3689	3725	2	.2
1400	560	20	1.22	-1	-0	0	1	1	3856	3886	3916	3593	3625	3658	2	.2
1600	360	20	1.84	10	11	13	14	15	4694	4810	4933	4413	4537	4666	3	.2
1600	400	20	1.74	9	10	11	11	12	4626	4713	4803	4341	4433	4529	3	.2
1600	440	20	1.67	7	8	9	9	10	4577	4643	4711	4288	4359	4431	3	.2
1600	480	20	1.60	6	6	7	7	8	4536	4585	4635	4244	4296	4350	3	.2
1600	520	20	1.52	3	3	4	4	5	4454	4492	4531	4157	4198	4239	3	.2
1600	560	20	1.46	0	1	1	2	2	4393	4427	4461	4091	4128	4165	2	.2
1800	360	20	2.18	12	13	14	16	17	5256	5384	5518	4938	5074	5217	4	.2
1800	400	20	2.07	10	11	12	13	14	5182	5278	5377	4860	4961	5067	3	.2
1800	440	20	1.97	8	9	10	11	12	5129	5202	5277	4803	4881	4960	3	.2
1800	480	20	1.89	7	7	8	9	9	5081	5135	5190	4751	4809	4867	3	.2
1800	520	20	1.80	4	4	5	5	6	4991	5033	5077	4655	4701	4747	3	.2
1800	560	20	1.72	1	2	2	3	3	4925	4963	5001	4584	4625	4666	3	.2
2000	360	20	2.56	14	15	16	18	19	5809	5948	6093	5454	5602	5755	4	.2
2000	400	20	2.42	12	13	14	15	16	5730	5834	5941	5370	5480	5595	4	.2
2000	440	20	2.31	10	11	12	13	14	5674	5753	5834	5310	5394	5481	4	.2
2000	480	20	2.21	8	9	10	10	11	5619	5677	5736	5251	5313	5377	4	.2
2000	520	20	2.09	5	6	6	7	7	5522	5569	5616	5147	5197	5248	4	.2
2000	560	20	2.00	2	3	3	4	5	5451	5493	5535	5071	5116	5161	3	.2

Table 6-34. (Sheet 10)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM HEI
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS												
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
2200	360	30	1.64	8	9	10	11	12	4404	4468	4534	3815	3889	3964	3	.3
2200	400	30	1.57	7	8	9	9	10	4366	4414	4463	3771	3827	3883	3	.3
2200	440	30	1.52	6	6	7	8	8	4339	4375	4413	3740	3782	3825	3	.3
2200	480	30	1.47	4	4	5	6	6	4309	4337	4364	3706	3737	3769	2	.3
2200	520	30	1.41	1	2	2	3	3	4261	4283	4305	3649	3675	3701	2	.3
2200	560	30	1.37	-1	-1	-0	0	1	4224	4244	4263	3606	3629	3652	2	.3
2400	360	30	1.85	9	10	11	12	13	4796	4865	4937	4153	4232	4314	3	.3
2400	400	30	1.77	8	9	9	10	11	4755	4807	4861	4105	4165	4227	3	.3
2400	440	30	1.71	6	7	8	9	9	4726	4766	4807	4072	4118	4165	3	.3
2400	480	30	1.65	5	5	6	6	7	4693	4722	4752	4033	4067	4101	3	.3
2400	520	30	1.59	2	2	3	3	4	4642	4666	4690	3973	4001	4029	3	.3
2400	560	30	1.54	-1	-0	0	1	1	4601	4623	4644	3926	3951	3976	3	.3
2600	360	30	2.08	10	11	12	14	15	5187	5261	5337	4488	4573	4661	4	.3
2600	400	30	1.99	9	10	10	11	12	5143	5199	5256	4438	4502	4568	3	.3
2600	440	30	1.92	7	8	9	9	10	5112	5155	5198	4402	4451	4502	3	.3
2600	480	30	1.85	5	6	6	7	8	5074	5106	5138	4358	4394	4431	3	.3
2600	520	30	1.78	3	3	4	4	5	5021	5046	5072	4295	4325	4355	3	.3
2600	560	30	1.72	-0	0	1	1	2	4977	5000	5023	4244	4271	4298	3	.3
2800	360	30	2.32	11	13	14	15	16	5575	5654	5735	4821	4912	5005	4	.3
2800	400	30	2.22	10	11	11	12	13	5529	5588	5649	4767	4836	4906	4	.3
2800	440	30	2.14	8	9	10	10	11	5497	5542	5588	4730	4783	4836	4	.3
2800	480	30	2.06	6	7	7	8	8	5454	5487	5521	4680	4719	4758	3	.3
2800	520	30	1.98	3	4	4	5	5	5398	5425	5453	4615	4647	4680	3	.3
2800	560	30	1.91	1	1	2	2	3	5351	5376	5401	4560	4589	4618	3	.3
3000	360	30	2.58	13	14	15	16	17	5960	6044	6130	5150	5247	5345	4	.4
3000	400	30	2.47	11	12	13	14	14	5912	5975	6039	5094	5167	5241	4	.4
3000	440	30	2.38	9	10	11	11	12	5879	5927	5976	5055	5111	5168	4	.3
3000	480	30	2.28	7	8	8	9	9	5831	5866	5902	5000	5041	5083	4	.3
3000	520	30	2.19	4	5	5	6	6	5773	5802	5832	4932	4966	5001	4	.3
3000	560	30	2.12	1	2	2	3	3	5723	5749	5776	4874	4905	4936	4	.3
3500	360	30	3.30	16	17	19	20	21	6911	7005	7101	5959	6067	6178	6	.4
3500	400	30	3.15	14	15	16	17	18	6858	6928	7000	5897	5979	6063	5	.4
3500	440	30	3.03	12	13	14	15	16	6823	6876	6931	5856	5919	5983	5	.4
3500	480	30	2.91	10	10	11	12	12	6765	6805	6845	5790	5836	5883	5	.4
3500	520	30	2.79	7	7	8	8	9	6701	6734	6769	5714	5753	5794	5	.4
3500	560	30	2.68	4	4	5	5	6	6644	6674	6705	5647	5683	5719	5	.4
4000	360	30	4.11	21	22	23	25	26	7838	7940	8045	6740	6859	6980	7	.4
4000	400	30	3.93	18	19	20	21	22	7782	7859	7938	6675	6765	6856	7	.4
4000	440	30	3.79	16	17	18	19	20	7747	7806	7866	6634	6703	6773	6	.4
4000	480	30	3.63	13	14	15	15	16	7684	7727	7772	6560	6611	6663	6	.4
4000	520	30	3.47	10	10	11	12	12	7611	7649	7687	6475	6520	6565	6	.4
4000	560	30	3.34	6	7	8	8	9	7551	7585	7620	6405	6445	6485	6	.4
4500	360	30	4.98	26	28	29	30	32	8738	8848	8960	7490	7618	7748	8	.5
4500	400	30	4.78	23	24	25	27	28	8681	8763	8848	7424	7520	7618	8	.5
4500	440	30	4.61	21	22	23	24	25	8648	8711	8774	7385	7458	7532	8	.5
4500	480	30	4.42	17	18	19	20	20	8579	8626	8674	7304	7360	7415	7	.5
4500	520	30	4.24	14	14	15	16	16	8501	8542	8584	7212	7261	7310	7	.4
4500	560	30	4.08	10	11	11	12	13	8442	8479	8517	7143	7187	7231	7	.4
5000	360	30	5.86	32	34	35	37	38	9611	9726	9843	8208	8342	8479	10	.5
5000	400	30	5.64	29	30	31	33	34	9554	9641	9729	8141	8243	8346	10	.5
5000	440	30	5.46	26	27	28	29	30	9522	9587	9654	8103	8180	8258	9	.5
5000	480	30	5.25	22	23	24	25	25	9443	9493	9544	8011	8070	8130	9	.5
5000	520	30	5.05	18	19	20	20	21	9368	9412	9457	7922	7974	8027	9	.5
5000	560	30	4.88	15	15	16	17	17	9312	9352	9392	7855	7903	7951	8	.5
4000	360	45	2.27	8	9	10	11	12	5627	5665	5703	3958	4011	4065	4	.5
4000	400	45	2.20	7	8	8	9	10	5605	5633	5662	3926	3966	4007	4	.5
4000	440	45	2.14	6	6	7	8	8	5591	5612	5634	3906	3937	3968	4	.5
4500	360	45	2.72	10	11	12	13	14	6320	6361	6404	4437	4496	4556	5	.5
4500	400	45	2.63	9	9	10	11	11	6295	6326	6358	4402	4447	4492	4	.5
4500	440	45	2.55	7	8	8	9	10	6280	6304	6328	4381	4415	4449	4	.5
4500	480	45	2.47	5	5	6	6	7	6249	6267	6285	4336	4361	4387	4	.5
4500	520	45	2.39	2	3	3	3	4	6211	6226	6242	4280	4303	4325	4	.5
4500	560	45	2.32	-1	-0	0	1	1	6181	6195	6209	4238	4258	4279	4	.5

Table 6-34. (Sheet 11)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM HEI
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
5000	360	45	3.22	12	13	14	15	16	7008	7053	7099	4910	4974	5040	5	.5
5000	400	45	3.11	10	11	12	13	13	6981	7016	7050	4872	4921	4971	5	.5
5000	440	45	3.02	9	10	10	11	11	6966	6992	7018	4850	4887	4924	5	.5
5000	480	45	2.91	6	7	7	8	8	6927	6947	6966	4794	4822	4851	5	.5
5000	520	45	2.82	3	4	4	5	5	6888	6905	6922	4737	4762	4787	5	.5
5000	560	45	2.73	1	1	2	2	3	6858	6873	6889	4694	4716	4739	5	.5
5500	360	45	3.77	15	15	16	17	18	7690	7739	7789	5375	5445	5515	6	.6
5500	400	45	3.64	13	13	14	15	16	7663	7700	7737	5336	5388	5442	6	.6
5500	440	45	3.53	11	12	12	13	13	7646	7673	7701	5311	5351	5391	6	.6
5500	480	45	3.40	8	8	9	10	10	7600	7622	7643	5245	5276	5307	6	.5
5500	520	45	3.29	5	5	6	6	7	7560	7579	7598	5186	5214	5242	6	.5
5500	560	45	3.19	2	3	3	4	4	7531	7548	7565	5144	5169	5194	5	.5
6000	360	45	4.36	17	18	19	20	21	8367	8419	8472	5831	5906	5982	7	.6
6000	400	45	4.22	15	16	17	17	18	8339	8378	8418	5791	5847	5905	7	.6
6000	440	45	4.09	13	14	15	15	16	8321	8350	8380	5765	5807	5850	7	.6
6000	480	45	3.93	10	10	11	11	12	8268	8291	8314	5688	5721	5755	7	.5
6000	520	45	3.80	7	7	8	8	9	8227	8247	8268	5628	5658	5688	6	.6
6000	560	45	3.69	4	5	5	6	6	8200	8218	8237	5589	5616	5643	6	.6
7000	360	45	5.61	24	25	26	27	28	9701	9759	9818	6716	6800	6884	9	.7
7000	400	45	5.44	21	22	23	24	24	9672	9716	9760	6674	6738	6802	9	.7
7000	440	45	5.27	18	19	20	20	21	9643	9675	9707	6632	6678	6725	9	.7
7000	480	45	5.09	15	15	16	16	17	9587	9613	9640	6551	6589	6627	9	.7
7000	520	45	4.93	11	12	12	13	13	9544	9567	9591	6487	6522	6556	8	.6
7000	560	45	4.80	9	9	10	10	11	9523	9545	9566	6457	6489	6520	8	.6
8000	360	45	6.89	31	32	33	34	35	11008	11071	11135	7562	7653	7745	12	.8
8000	400	45	6.70	28	29	30	31	32	10980	11028	11076	7521	7590	7660	11	.7
8000	440	45	6.51	25	25	26	27	27	10937	10972	11006	7458	7508	7559	11	.7
8000	480	45	6.31	21	21	22	22	23	10884	10913	10943	7380	7423	7466	11	.7
8000	520	45	6.13	16	17	18	18	19	10836	10863	10889	7310	7349	7388	10	.7
8000	560	45	6.00	14	15	15	16	16	10828	10852	10876	7297	7333	7369	10	.7
6500	360	60	3.45	8	9	9	10	10	7453	7472	7492	3647	3686	3726	6	.7
6500	400	60	3.35	7	7	8	8	9	7442	7457	7472	3625	3655	3685	6	.7
6500	440	60	3.26	5	6	6	7	7	7433	7444	7455	3606	3628	3651	6	.6
7000	360	60	3.90	9	10	11	11	12	8020	8041	8062	3915	3957	3999	7	.7
7000	400	60	3.79	8	8	9	9	10	8009	8025	8041	3892	3924	3956	6	.7
7000	440	60	3.68	6	7	7	7	8	7997	8008	8020	3866	3890	3914	6	.7
7000	480	60	3.57	3	4	4	4	5	7969	7978	7988	3809	3828	3848	6	.7
7000	520	60	3.46	0	1	1	2	2	7946	7955	7963	3761	3778	3796	6	.6
7000	560	60	3.37	-2	-1	-1	-1	-0	7935	7943	7950	3737	3753	3769	6	.5
7500	360	60	4.38	11	11	12	13	13	8586	8608	8630	4179	4224	4269	7	.8
7500	400	60	4.25	9	10	10	11	11	8574	8591	8608	4156	4190	4224	7	.7
7500	440	60	4.13	7	8	8	9	9	8559	8571	8583	4123	4148	4173	7	.7
7500	480	60	4.00	4	5	5	5	6	8530	8540	8550	4064	4085	4106	7	.7
7500	520	60	3.88	1	2	2	2	3	8506	8515	8524	4013	4031	4050	7	.7
7500	560	60	3.78	-1	-0	0	1	1	8497	8505	8513	3994	4011	4028	6	.7
8000	360	60	4.87	12	13	14	14	15	9150	9173	9196	4440	4488	4535	8	.8
8000	400	60	4.74	11	11	12	12	13	9138	9156	9173	4417	4453	4489	8	.8
8000	440	60	4.60	8	9	9	10	10	9118	9131	9144	4375	4402	4428	8	.7
8000	480	60	4.46	5	6	6	7	7	9090	9101	9112	4316	4339	4361	8	.7
8000	520	60	4.33	2	3	3	3	4	9064	9074	9083	4261	4281	4302	7	.7
8000	560	60	4.22	1	1	1	2	2	9058	9067	9076	4248	4267	4285	7	.7
8500	360	60	5.37	14	15	15	16	17	9712	9736	9760	4698	4747	4797	9	.8
8500	400	60	5.23	12	13	13	14	15	9701	9719	9737	4675	4712	4750	9	.8
8500	440	60	5.08	10	10	11	11	12	9679	9692	9705	4629	4656	4684	9	.8
8500	480	60	4.93	7	7	7	8	8	9648	9659	9670	4564	4587	4611	8	.8
8500	520	60	4.80	3	4	4	5	5	9622	9632	9643	4510	4531	4553	8	.7
8500	560	60	4.68	2	2	3	3	3	9618	9627	9636	4500	4520	4540	8	.7
9000	360	60	5.89	16	17	17	18	19	10272	10297	10322	4951	5003	5055	10	.8
9000	400	60	5.74	14	15	15	16	16	10262	10280	10299	4930	4969	5007	10	.8
9000	440	60	5.58	11	12	12	13	13	10237	10251	10265	4878	4907	4936	9	.8
9000	480	60	5.42	8	8	9	9	10	10203	10215	10227	4807	4832	4857	9	.8
9000	520	60	5.27	5	5	6	6	6	10179	10190	10201	4755	4778	4801	9	.8
9000	560	60	5.15	3	4	4	4	5	10176	10186	10196	4749	4770	4791	9	.8

Table 6-34. (Sheet 12)

F-5E GUN FIRING TABLES FOR M39 GUN/20MM HEI
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 1 MIL
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
9500	360	60	6.40	18	19	19	20	21	10831	10857	10883	5201	5255	5309	11	.9
9500	400	60	6.25	16	17	17	18	18	10821	10840	10860	5181	5221	5261	11	.9
9500	440	60	6.08	13	13	14	14	15	10790	10805	10819	5117	5147	5177	10	.8
9500	480	60	5.91	9	10	10	11	11	10757	10769	10782	5046	5072	5099	10	.8
9500	520	60	5.76	6	7	7	7	8	10734	10746	10757	4998	5022	5046	10	.8
9500	560	60	5.63	5	5	5	6	6	10733	10743	10754	4995	5017	5039	10	.8
10000	360	60	6.93	20	21	21	22	23	11388	11414	11441	5448	5503	5559	12	.9
10000	400	60	6.77	18	18	19	20	20	11377	11397	11417	5426	5467	5508	11	.9
10000	440	60	6.58	14	15	15	16	16	11341	11356	11371	5350	5381	5413	11	.9
10000	480	60	6.41	11	11	11	12	12	11308	11321	11334	5279	5307	5335	11	.8
10000	520	60	6.25	8	8	8	9	9	11288	11300	11312	5237	5262	5288	11	.8
10000	560	60	6.12	6	6	7	7	8	11289	11300	11311	5238	5262	5285	10	.8
11000	360	60	8.00	24	25	26	26	27	12496	12524	12553	5929	5988	6048	13	1.0
11000	400	60	7.81	22	22	23	23	24	12482	12502	12522	5898	5941	5984	13	.9
11000	440	60	7.60	17	18	18	19	19	12439	12455	12471	5807	5841	5875	13	.9
11000	480	60	7.42	14	14	14	15	15	12405	12419	12434	5735	5765	5796	13	.9
11000	520	60	7.26	11	11	12	12	13	12394	12407	12420	5711	5738	5766	12	.9
11000	560	60	7.11	9	10	10	11	11	12396	12408	12420	5716	5741	5767	12	.9
12000	360	60	9.08	28	29	30	31	31	13599	13628	13658	6398	6460	6522	15	1.0
12000	400	60	8.86	25	26	26	27	28	13573	13594	13615	6343	6387	6431	15	1.0
12000	440	60	8.64	21	21	22	22	23	13532	13550	13567	6255	6292	6329	15	1.0
12000	480	60	8.44	17	17	18	18	19	13499	13514	13530	6182	6215	6249	14	.9
12000	520	60	8.28	15	15	16	16	16	13495	13509	13523	6174	6205	6235	14	.9
12000	560	60	8.13	13	13	14	14	15	13499	13512	13525	6182	6210	6238	14	.9

Table 6-35. (Sheet 1)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH MK-1, MK-5, AND MK-61 WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
900	360	10	2.30	38	42	47	52	56	4566	4623	4682	4476	4535	4594	4	.2
900	400	10	2.25	31	34	38	42	46	4565	4606	4648	4475	4517	4560	4	.2
900	440	10	2.20	25	28	31	34	37	4574	4605	4636	4485	4516	4548	4	.2
900	480	10	2.16	20	23	25	28	30	4588	4611	4634	4499	4522	4545	4	.2
900	520	10	2.12	16	18	20	22	24	4604	4622	4639	4515	4533	4551	4	.2
900	560	10	2.08	13	15	16	18	20	4623	4636	4650	4535	4548	4562	4	.1
1250	360	10	3.02	42	46	51	56	60	6207	6281	6356	6080	6155	6232	5	.2
1250	400	10	2.94	35	38	42	46	50	6211	6264	6318	6084	6138	6193	5	.2
1250	440	10	2.88	29	32	35	38	41	6227	6267	6307	6100	6141	6182	5	.2
1250	480	10	2.82	24	26	29	31	34	6250	6279	6309	6124	6154	6184	5	.2
1250	520	10	2.77	20	22	24	26	28	6275	6298	6321	6149	6172	6196	5	.1
1250	560	10	2.72	16	18	20	21	23	6303	6321	6338	6178	6196	6213	5	.1
1250	360	15	2.24	36	41	45	50	54	4448	4486	4524	4269	4308	4348	4	.2
1250	400	15	2.19	29	33	37	40	44	4447	4475	4502	4268	4296	4325	4	.2
1250	440	15	2.14	24	27	30	33	36	4453	4474	4494	4274	4295	4317	4	.2
1250	480	15	2.10	19	21	24	26	29	4463	4478	4493	4284	4300	4315	4	.2
1250	520	15	2.06	15	17	19	21	23	4473	4485	4496	4295	4307	4319	3	.2
1250	560	15	2.03	12	13	15	17	19	4485	4494	4503	4308	4317	4326	3	.2
1500	360	15	2.59	38	43	47	52	56	5299	5343	5388	5082	5128	5175	4	.2
1500	400	15	2.53	31	35	39	42	46	5299	5331	5364	5083	5116	5150	4	.2
1500	440	15	2.48	26	29	32	35	38	5308	5331	5355	5091	5116	5141	4	.2
1500	480	15	2.43	21	23	26	28	31	5320	5337	5355	5104	5122	5140	4	.2
1500	520	15	2.38	17	19	21	23	25	5333	5347	5360	5118	5132	5146	4	.2
1500	560	15	2.34	13	15	17	18	20	5349	5359	5369	5134	5145	5155	4	.2
1750	360	15	2.96	40	45	49	54	58	6137	6187	6238	5882	5935	5988	5	.2
1750	400	15	2.89	33	37	41	44	48	6140	6176	6213	5885	5923	5961	5	.2
1750	440	15	2.83	27	30	33	36	40	6151	6178	6205	5897	5925	5953	5	.2
1750	480	15	2.77	23	25	28	30	33	6166	6186	6206	5913	5933	5954	5	.2
1750	520	15	2.72	18	20	23	25	27	6183	6198	6214	5930	5946	5962	5	.2
1750	560	15	2.67	15	17	18	20	22	6202	6213	6225	5950	5962	5974	5	.2
1500	360	20	2.11	34	38	43	47	52	4140	4166	4192	3859	3887	3915	4	.3
1500	400	20	2.06	27	31	34	38	42	4139	4158	4177	3858	3878	3899	3	.3
1500	440	20	2.02	22	25	28	31	34	4144	4157	4171	3862	3877	3892	3	.3
1500	480	20	1.98	17	20	22	25	27	4150	4160	4170	3869	3880	3891	3	.3
1500	520	20	1.94	13	15	17	19	21	4157	4165	4173	3877	3885	3894	3	.3
1500	560	20	1.91	10	12	13	15	17	4165	4171	4177	3885	3892	3898	3	.3
1750	360	20	2.37	36	40	44	49	53	4810	4840	4870	4480	4512	4545	4	.3
1750	400	20	2.32	29	32	36	39	43	4810	4831	4853	4480	4503	4527	4	.3
1750	440	20	2.27	23	26	29	32	35	4815	4831	4847	4486	4503	4520	4	.3
1750	480	20	2.23	19	21	23	26	28	4823	4835	4846	4494	4507	4519	4	.3
1750	520	20	2.18	15	17	19	21	23	4831	4841	4850	4503	4513	4523	4	.3
1750	560	20	2.15	11	13	15	16	18	4841	4848	4855	4514	4521	4529	4	.3
2000	360	20	2.65	37	41	46	50	55	5475	5508	5542	5096	5132	5169	4	.3
2000	400	20	2.59	30	34	37	41	44	5475	5500	5524	5097	5123	5149	4	.3
2000	440	20	2.53	25	27	30	33	36	5482	5500	5518	5104	5124	5143	4	.3
2000	480	20	2.48	20	22	25	27	30	5492	5505	5518	5115	5129	5143	4	.3
2000	520	20	2.44	16	18	20	22	24	5502	5512	5523	5126	5137	5148	4	.3
2000	560	20	2.39	12	14	16	17	19	5513	5521	5528	5138	5146	5154	4	.3
2000	360	30	1.99	29	33	37	41	45	3870	3884	3899	3313	3330	3347	3	.4
2000	400	30	1.95	23	26	30	33	36	3870	3880	3890	3313	3325	3337	3	.4
2000	440	30	1.91	18	21	23	26	29	3872	3880	3887	3315	3324	3333	3	.4
2000	480	30	1.87	14	16	18	21	23	3875	3881	3887	3319	3326	3333	3	.4
2000	520	30	1.84	10	12	14	16	18	3879	3884	3888	3324	3329	3334	3	.4
2000	560	30	1.81	7	9	10	11	13	3884	3887	3890	3329	3333	3336	3	.4
2250	360	30	2.17	30	34	38	42	46	4346	4362	4378	3718	3737	3756	4	.4
2250	400	30	2.13	24	27	31	34	37	4346	4357	4369	3718	3732	3745	4	.4
2250	440	30	2.08	19	22	24	27	30	4349	4357	4366	3721	3731	3742	4	.4
2250	480	30	2.04	15	17	19	21	24	4353	4359	4365	3726	3734	3741	3	.4
2250	520	30	2.00	11	13	15	17	18	4357	4362	4367	3731	3737	3743	3	.4
2250	560	30	1.97	7	9	10	12	13	4362	4365	4369	3737	3741	3745	3	.4
2500	360	30	2.36	31	35	39	43	47	4821	4838	4856	4122	4142	4163	4	.4
2500	400	30	2.31	25	28	31	35	38	4821	4834	4846	4122	4137	4152	4	.4
2500	440	30	2.26	20	22	25	28	31	4824	4834	4843	4126	4137	4148	4	.4
2500	480	30	2.21	15	18	20	22	24	4829	4836	4843	4132	4140	4148	4	.4
2500	520	30	2.17	12	14	16	17	19	4834	4840	4845	4138	4144	4150	4	.4
2500	560	30	2.13	8	9	11	12	14	4839	4843	4847	4143	4148	4153	4	.4

Table 6-35. (Sheet 2)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH MK-1, MK-5, AND MK-61 WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED

NOTE

WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS

TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
2750	360	30	2.55	32	36	40	44	48	5294	5313	5333	4523	4546	4569	4	.4
2750	400	30	2.49	26	29	32	36	39	5294	5308	5322	4524	4541	4557	4	.4
2750	440	30	2.44	21	23	26	29	31	5299	5309	5319	4529	4541	4553	4	.4
2750	480	30	2.39	16	18	21	23	25	5304	5312	5319	4535	4544	4553	4	.4
2750	520	30	2.35	13	14	16	18	20	5310	5316	5322	4542	4549	4556	4	.4
2750	560	30	2.30	8	10	11	13	14	5315	5319	5324	4548	4553	4558	4	.4
3000	360	30	2.75	33	37	41	45	49	5765	5786	5807	4924	4948	4972	5	.4
3000	400	30	2.69	27	30	33	36	40	5767	5782	5797	4925	4942	4960	5	.4
3000	440	30	2.63	21	24	27	30	32	5771	5783	5794	4930	4943	4957	4	.4
3000	480	30	2.58	17	19	21	24	26	5778	5786	5794	4938	4947	4957	4	.4
3000	520	30	2.52	13	15	17	19	21	5784	5791	5797	4946	4953	4961	4	.4
3000	560	30	2.48	9	10	12	13	15	5790	5794	5799	4952	4957	4963	4	.4
3500	360	30	3.16	35	39	43	47	51	6704	6728	6752	5718	5746	5774	5	.4
3500	400	30	3.09	28	32	35	38	42	6706	6723	6741	5721	5741	5761	5	.4
3500	440	30	3.02	23	26	29	31	34	6713	6725	6738	5728	5743	5758	5	.4
3500	480	30	2.96	19	21	23	25	28	6721	6730	6739	5737	5748	5759	5	.4
3500	520	30	2.90	15	17	19	21	22	6729	6737	6744	5748	5756	5765	5	.4
3500	560	30	2.84	9	11	12	14	15	6735	6740	6745	5754	5760	5766	5	.4
4000	360	30	3.60	37	41	45	49	53	7635	7662	7689	6503	6535	6566	6	.4
4000	400	30	3.52	30	34	37	40	44	7639	7658	7678	6508	6531	6553	6	.4
4000	440	30	3.44	25	28	30	33	36	7647	7662	7676	6518	6535	6551	6	.4
4000	480	30	3.36	20	23	25	27	29	7657	7668	7678	6530	6542	6554	6	.4
4000	520	30	3.29	17	19	20	22	24	7668	7677	7685	6543	6552	6562	6	.4
4000	560	30	3.23	10	12	13	15	16	7675	7680	7686	6550	6556	6563	5	.4
4500	360	30	4.07	39	43	47	51	56	8558	8588	8617	7280	7314	7349	7	.4
4500	400	30	3.97	32	36	39	42	46	8564	8586	8607	7287	7312	7337	7	.4
4500	440	30	3.88	27	30	32	35	38	8575	8591	8606	7299	7318	7336	7	.4
4500	480	30	3.79	22	24	27	29	31	8587	8599	8610	7314	7327	7341	6	.4
4500	520	30	3.71	19	21	22	24	26	8601	8610	8619	7330	7340	7351	6	.4
4500	560	30	3.63	12	13	15	16	18	8609	8615	8621	7339	7346	7354	6	.4
5000	360	30	4.56	42	46	50	54	58	9473	9505	9537	8046	8083	8121	8	.4
5000	400	30	4.45	35	38	41	45	48	9482	9505	9528	8056	8083	8110	8	.4
5000	440	30	4.34	29	32	34	37	40	9495	9512	9529	8072	8091	8111	7	.4
5000	480	30	4.24	24	26	29	31	33	9510	9522	9535	8089	8104	8119	7	.4
5000	520	30	4.15	21	22	24	26	28	9527	9536	9546	8109	8120	8132	7	.4
5000	560	30	4.06	13	15	16	18	19	9536	9543	9549	8120	8128	8136	7	.4
4000	360	45	2.63	23	27	30	33	36	5550	5559	5569	3847	3861	3875	4	.6
4000	400	45	2.57	18	21	23	26	29	5551	5558	5565	3849	3858	3868	4	.6
4000	440	45	2.52	14	16	18	20	22	5553	5558	5563	3852	3859	3867	4	.6
4000	480	45	2.47	10	12	14	15	17	5556	5560	5564	3857	3862	3867	4	.5
4000	520	45	2.42	7	9	10	12	13	5560	5563	5565	3861	3865	3870	4	.5
4000	560	45	2.37	2	3	4	5	6	5561	5563	5565	3863	3866	3869	4	.5
4500	360	45	2.92	24	28	31	34	38	6237	6247	6258	4318	4334	4349	5	.6
4500	400	45	2.85	19	22	24	27	30	6238	6246	6253	4320	4331	4342	5	.6
4500	440	45	2.79	15	17	19	21	23	6241	6247	6252	4325	4333	4341	5	.5
4500	480	45	2.73	11	13	14	16	18	6245	6249	6253	4330	4336	4342	5	.5
4500	520	45	2.67	8	10	11	13	14	6249	6252	6255	4336	4340	4345	5	.5
4500	560	45	2.62	2	3	4	6	7	6250	6253	6255	4338	4341	4344	4	.5
5000	360	45	3.21	25	29	32	35	39	6922	6934	6945	4787	4804	4821	5	.6
5000	400	45	3.14	20	23	25	28	31	6924	6932	6941	4790	4802	4814	5	.6
5000	440	45	3.07	16	18	20	22	24	6928	6934	6940	4795	4804	4813	5	.5
5000	480	45	3.00	12	14	15	17	19	6932	6937	6941	4801	4808	4814	5	.5
5000	520	45	2.94	9	11	12	14	15	6937	6940	6944	4808	4813	4818	5	.5
5000	560	45	2.88	3	4	5	6	7	6939	6941	6944	4811	4814	4818	5	.5
5500	360	45	3.53	26	30	33	36	40	7606	7618	7631	5253	5272	5290	6	.6
5500	400	45	3.44	21	24	26	29	32	7608	7617	7627	5257	5270	5283	6	.6
5500	440	45	3.36	16	19	21	23	25	7613	7619	7626	5263	5273	5282	6	.5
5500	480	45	3.29	13	14	16	18	20	7618	7623	7628	5271	5278	5285	6	.5
5500	520	45	3.22	10	11	13	14	16	7623	7627	7631	5279	5284	5290	5	.5
5500	560	45	3.15	3	4	6	7	8	7625	7628	7631	5282	5285	5289	5	.5
6000	360	45	3.85	28	31	34	38	41	8288	8301	8315	5717	5737	5756	6	.6
6000	400	45	3.76	22	25	27	30	33	8291	8301	8311	5722	5736	5750	6	.6
6000	440	45	3.67	17	20	22	24	26	8296	8303	8310	5729	5739	5750	6	.5
6000	480	45	3.59	14	15	17	19	21	8302	8307	8312	5738	5745	5753	6	.5
6000	520	45	3.51	11	12	14	15	16	8308	8312	8316	5747	5753	5758	6	.5
6000	560	45	3.44	3	4	6	7	8	8310	8313	8316	5749	5753	5758	6	.5

Table 6-35. (Sheet 3)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH MK-1, MK-5, AND MK-61 WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
7000	360	45	4.53	30	33	37	40	44	9645	9661	9676	6636	6658	6680	8	.6
7000	400	45	4.42	24	27	30	33	35	9650	9662	9673	6643	6659	6675	7	.6
7000	440	45	4.31	20	22	24	26	29	9657	9665	9674	6653	6665	6677	7	.5
7000	480	45	4.22	16	18	19	21	23	9665	9671	9677	6664	6673	6682	7	.5
7000	520	45	4.12	12	13	15	16	17	9672	9677	9681	6675	6681	6688	7	.5
7000	560	45	4.03	3	5	6	7	8	9674	9677	9680	6677	6682	6687	7	.5
8000	360	45	5.27	33	36	40	43	46	10994	11011	11029	7542	7567	7591	9	.6
8000	400	45	5.13	27	30	32	35	38	11002	11014	11027	7552	7570	7588	9	.6
8000	440	45	5.01	22	24	26	29	31	11011	11020	11029	7566	7579	7592	8	.6
8000	480	45	4.89	18	20	22	23	25	11021	11028	11035	7581	7590	7600	8	.5
8000	520	45	4.78	12	14	15	17	18	11028	11033	11038	7591	7598	7605	8	.5
8000	560	45	4.67	4	5	7	8	9	11031	11035	11039	7595	7600	7606	8	.5
6500	360	60	3.40	13	16	18	20	23	7434	7439	7444	3607	3617	3627	6	.7
6500	400	60	3.32	9	11	13	15	17	7435	7439	7442	3610	3617	3624	6	.7
6500	440	60	3.25	6	7	9	11	12	7437	7440	7442	3614	3619	3625	5	.6
6500	480	60	3.18	3	4	6	7	8	7439	7441	7443	3619	3623	3627	5	.6
6500	520	60	3.11	1	2	3	4	5	7442	7443	7445	3624	3627	3630	5	.6
6500	560	60	3.05	-6	-6	-5	-4	-3	7441	7442	7443	3623	3625	3627	5	.6
7000	360	60	3.66	14	16	19	21	23	8002	8008	8013	3878	3889	3900	6	.7
7000	400	60	3.57	10	12	14	16	17	8004	8008	8012	3882	3889	3897	6	.7
7000	440	60	3.49	6	8	10	11	13	8007	8009	8012	3887	3892	3898	6	.6
7000	480	60	3.41	4	5	6	8	9	8009	8011	8013	3892	3896	3900	6	.6
7000	520	60	3.34	1	2	3	4	5	8011	8013	8014	3896	3899	3903	6	.6
7000	560	60	3.27	-7	-6	-5	-4	-3	8011	8012	8013	3895	3898	3900	6	.6
7500	360	60	3.92	14	17	19	22	24	8571	8577	8582	4149	4160	4172	7	.7
7500	400	60	3.83	10	12	14	16	18	8573	8577	8581	4153	4161	4170	6	.7
7500	440	60	3.74	7	9	10	12	13	8576	8579	8582	4158	4164	4170	6	.6
7500	480	60	3.66	4	5	7	8	9	8578	8581	8583	4164	4169	4173	6	.6
7500	520	60	3.58	1	2	3	4	5	8580	8582	8584	4168	4171	4175	6	.6
7500	560	60	3.50	-7	-6	-5	-5	-4	8580	8581	8582	4167	4169	4172	6	.6
8000	360	60	4.20	15	17	20	22	25	9139	9145	9151	4418	4430	4443	7	.7
8000	400	60	4.09	11	13	15	17	19	9141	9145	9150	4423	4432	4441	7	.7
8000	440	60	4.00	8	9	11	12	14	9144	9147	9150	4429	4435	4442	7	.6
8000	480	60	3.91	5	6	7	9	10	9147	9150	9152	4436	4440	4445	7	.6
8000	520	60	3.82	0	1	2	3	4	9149	9151	9152	4439	4443	4446	6	.6
8000	560	60	3.73	-7	-6	-5	-5	-4	9149	9150	9151	4438	4441	4444	6	.6
8500	360	60	4.48	16	18	21	23	25	9706	9712	9719	4686	4699	4712	8	.7
8500	400	60	4.37	12	14	16	17	19	9709	9713	9718	4692	4701	4711	7	.7
8500	440	60	4.26	8	10	11	13	14	9712	9716	9719	4699	4706	4712	7	.6
8500	480	60	4.16	6	7	8	9	11	9716	9718	9721	4706	4711	4716	7	.6
8500	520	60	4.07	0	1	2	3	4	9717	9719	9721	4709	4713	4716	7	.6
8500	560	60	3.98	-7	-6	-5	-5	-4	9717	9718	9720	4708	4711	4714	7	.6
9000	360	60	4.77	16	19	21	24	26	10273	10280	10286	4953	4967	4981	8	.7
9000	400	60	4.65	12	14	16	18	20	10276	10281	10286	4960	4970	4979	8	.7
9000	440	60	4.53	9	10	12	13	15	10280	10283	10287	4968	4975	4982	8	.7
9000	480	60	4.43	6	7	9	10	11	10284	10287	10289	4976	4981	4987	7	.6
9000	520	60	4.32	0	1	2	3	4	10285	10287	10289	4979	4983	4986	7	.6
9000	560	60	4.22	-7	-6	-5	-5	-4	10285	10286	10288	4978	4981	4984	7	.6
10000	360	60	5.37	18	20	23	25	27	11405	11412	11419	5484	5499	5514	9	.7
10000	400	60	5.23	14	16	17	19	21	11409	11414	11419	5492	5503	5514	9	.7
10000	440	60	5.10	10	12	13	15	16	11414	11417	11421	5502	5510	5517	9	.7
10000	480	60	4.97	7	9	10	11	12	11419	11421	11424	5512	5518	5524	8	.6
10000	520	60	4.85	1	2	3	4	5	11420	11422	11424	5516	5520	5524	8	.6
10000	560	60	4.74	-7	-6	-5	-5	-4	11419	11421	11422	5513	5517	5520	8	.6
11000	360	60	5.99	19	22	24	27	29	12535	12542	12550	6010	6026	6042	10	.7
11000	400	60	5.84	15	17	19	21	23	12539	12545	12551	6020	6031	6043	10	.7
11000	440	60	5.69	11	13	14	16	18	12545	12549	12553	6032	6040	6048	10	.7
11000	480	60	5.55	9	10	11	12	13	12551	12554	12557	6043	6050	6056	9	.7
11000	520	60	5.41	0	1	2	3	4	12552	12554	12556	6046	6050	6054	9	.6
11000	560	60	5.28	-7	-6	-5	-4	-4	12551	12553	12555	6044	6048	6052	9	.6
12000	360	60	6.65	21	24	26	28	31	13662	13670	13678	6530	6547	6564	11	.7
12000	400	60	6.47	17	18	20	22	24	13668	13674	13679	6543	6555	6567	11	.7
12000	440	60	6.30	13	14	16	17	19	13674	13679	13683	6557	6565	6574	11	.7
12000	480	60	6.14	9	10	11	12	13	13680	13683	13686	6568	6574	6581	10	.7
12000	520	60	5.99	-0	1	2	3	4	13681	13683	13686	6571	6575	6580	10	.7
12000	560	60	5.84	-7	-6	-6	-5	-4	13681	13683	13685	6570	6575	6579	10	.6

Table 6-35. (Sheet 4)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH MK-1, MK-5, AND MK-61 WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
900	360	10	2.24	37	41	46	51	55	4594	4648	4704	4505	4560	4617	4	.2
900	400	10	2.19	29	33	37	41	44	4594	4633	4673	4505	4545	4586	4	.2
900	440	10	2.14	23	27	30	33	36	4603	4631	4660	4514	4543	4573	4	.2
900	480	10	2.10	18	21	24	26	29	4616	4638	4659	4528	4549	4571	4	.1
900	520	10	2.06	15	17	19	21	23	4633	4649	4665	4544	4561	4578	3	.1
900	560	10	2.02	7	8	10	12	13	4636	4648	4660	4548	4560	4572	3	.1
1250	360	10	2.91	40	45	50	54	59	6254	6325	6398	6128	6201	6274	5	.2
1250	400	10	2.84	33	37	40	44	48	6259	6311	6363	6133	6186	6239	5	.2
1250	440	10	2.78	27	30	33	36	39	6275	6313	6350	6149	6188	6226	5	.1
1250	480	10	2.72	22	24	27	29	32	6297	6325	6353	6172	6200	6229	5	.1
1250	520	10	2.67	18	20	22	24	26	6322	6343	6364	6197	6219	6240	5	.1
1250	560	10	2.62	9	11	12	14	16	6328	6343	6359	6203	6219	6235	4	.1
1250	360	15	2.18	35	40	44	49	53	4466	4502	4539	4288	4325	4363	4	.2
1250	400	15	2.13	28	32	35	39	43	4466	4492	4519	4288	4315	4342	4	.2
1250	440	15	2.08	22	25	28	31	34	4472	4491	4510	4294	4313	4333	4	.2
1250	480	15	2.04	17	20	22	25	27	4481	4495	4509	4303	4318	4332	3	.2
1250	520	15	2.00	13	15	17	19	21	4491	4502	4513	4314	4325	4336	3	.2
1250	560	15	1.96	5	7	8	10	12	4492	4500	4508	4315	4323	4331	3	.2
1500	360	15	2.51	37	41	46	51	55	5323	5365	5408	5107	5151	5195	4	.2
1500	400	15	2.45	30	33	37	41	45	5324	5355	5386	5109	5140	5173	4	.2
1500	440	15	2.40	24	27	30	33	36	5332	5354	5377	5117	5140	5163	4	.2
1500	480	15	2.35	19	21	24	26	29	5344	5360	5377	5129	5146	5164	4	.2
1500	520	15	2.30	15	17	19	21	23	5357	5369	5382	5143	5155	5168	4	.2
1500	560	15	2.26	6	8	9	11	13	5358	5367	5376	5144	5153	5163	4	.2
1750	360	15	2.85	39	43	48	53	57	6169	6217	6265	5915	5965	6016	5	.2
1750	400	15	2.78	31	35	39	43	46	6172	6207	6242	5919	5955	5992	5	.2
1750	440	15	2.72	26	29	32	35	38	6183	6208	6233	5930	5956	5983	5	.2
1750	480	15	2.67	21	23	26	28	31	6197	6216	6235	5945	5965	5985	5	.2
1750	520	15	2.62	16	18	20	22	24	6212	6226	6240	5961	5975	5990	4	.2
1750	560	15	2.56	7	9	11	12	14	6215	6225	6236	5964	5974	5985	4	.2
1500	360	20	2.06	33	37	42	46	51	4152	4177	4201	3872	3898	3925	3	.3
1500	400	20	2.01	26	30	33	37	40	4152	4170	4188	3872	3891	3910	3	.3
1500	440	20	1.97	20	23	26	29	32	4156	4169	4182	3876	3890	3903	3	.3
1500	480	20	1.93	16	18	21	23	25	4162	4171	4181	3882	3892	3903	3	.3
1500	520	20	1.89	12	14	16	17	19	4169	4176	4183	3889	3897	3905	3	.3
1500	560	20	1.85	3	5	6	8	10	4168	4174	4179	3889	3895	3900	3	.3
1750	360	20	2.31	34	39	43	48	52	4825	4853	4882	4496	4527	4557	4	.3
1750	400	20	2.25	27	31	35	38	42	4826	4846	4867	4497	4519	4541	4	.3
1750	440	20	2.20	22	25	28	30	33	4831	4845	4860	4503	4518	4534	4	.3
1750	480	20	2.16	17	19	22	24	27	4838	4849	4860	4510	4522	4534	4	.3
1750	520	20	2.12	13	14	16	18	20	4846	4854	4862	4519	4527	4536	4	.3
1750	560	20	2.08	4	6	7	9	10	4846	4852	4858	4519	4525	4532	4	.3
2000	360	20	2.56	36	40	45	49	53	5493	5525	5557	5116	5150	5185	4	.3
2000	400	20	2.50	29	32	36	39	43	5495	5518	5541	5118	5143	5168	4	.3
2000	440	20	2.45	23	26	29	32	35	5501	5518	5535	5125	5143	5161	4	.3
2000	480	20	2.40	18	21	23	25	28	5510	5523	5535	5135	5148	5161	4	.3
2000	520	20	2.35	13	15	17	19	21	5519	5528	5537	5144	5153	5163	4	.3
2000	560	20	2.30	5	6	8	9	11	5519	5526	5533	5144	5152	5159	4	.3
2000	360	30	1.94	28	32	36	41	45	3876	3890	3904	3321	3336	3352	3	.4
2000	400	30	1.90	22	25	29	32	35	3876	3886	3896	3321	3332	3344	3	.4
2000	440	30	1.86	17	19	22	25	28	3879	3886	3893	3323	3331	3340	3	.4
2000	480	30	1.83	12	15	17	19	21	3882	3887	3893	3327	3333	3339	3	.4
2000	520	30	1.79	8	10	12	13	15	3885	3889	3893	3331	3335	3340	3	.4
2000	560	30	1.76	-0	1	3	4	6	3884	3887	3890	3330	3333	3337	3	.4
2250	360	30	2.12	29	33	37	41	46	4354	4369	4384	3727	3745	3763	4	.4
2250	400	30	2.07	23	26	29	33	36	4354	4365	4376	3728	3740	3753	3	.4
2250	440	30	2.02	18	20	23	26	28	4357	4365	4372	3731	3740	3749	3	.4
2250	480	30	1.98	13	15	18	20	22	4360	4366	4372	3735	3742	3749	3	.4
2250	520	30	1.95	8	10	12	14	15	4364	4368	4372	3739	3744	3749	3	.4
2250	560	30	1.91	-0	1	3	4	6	4363	4366	4370	3738	3742	3746	3	.4
2500	360	30	2.29	30	34	38	42	46	4830	4846	4863	4132	4152	4171	4	.4
2500	400	30	2.24	24	27	30	34	37	4830	4843	4855	4133	4147	4161	4	.4
2500	440	30	2.19	18	21	24	26	29	4834	4842	4851	4137	4147	4157	4	.4
2500	480	30	2.15	14	16	18	21	23	4838	4845	4851	4142	4150	4157	4	.4
2500	520	30	2.10	9	11	12	14	16	4841	4846	4851	4146	4151	4157	4	.4
2500	560	30	2.06	0	2	3	5	6	4841	4845	4848	4145	4150	4154	3	.4

Table 6-35. (Sheet 5)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH MK-1, MK-5, AND MK-61 WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS											WIND CORRECTIONS FACTORS	
				12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0		
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
2750	360	30	2.47	31	35	39	43	47	5304	5323	5341	4536	4557	4578	4	.4
2750	400	30	2.41	24	28	31	34	38	5306	5319	5332	4537	4553	4568	4	.4
2750	440	30	2.36	19	22	24	27	30	5309	5319	5328	4542	4553	4564	4	.4
2750	480	30	2.31	15	17	19	21	24	5315	5322	5329	4548	4556	4564	4	.4
2750	520	30	2.27	9	11	13	14	16	5318	5323	5328	4552	4558	4564	4	.4
2750	560	30	2.22	1	2	4	5	7	5318	5322	5326	4551	4556	4561	4	.4
3000	360	30	2.65	32	36	40	44	48	5778	5798	5817	4938	4961	4984	4	.4
3000	400	30	2.59	25	29	32	35	39	5780	5794	5808	4940	4957	4973	4	.4
3000	440	30	2.53	20	23	25	28	31	5784	5794	5804	4945	4957	4969	4	.4
3000	480	30	2.48	15	18	20	22	24	5790	5798	5805	4952	4961	4970	4	.4
3000	520	30	2.43	9	11	13	15	16	5793	5799	5804	4956	4962	4969	4	.4
3000	560	30	2.38	1	3	4	6	7	5793	5798	5802	4956	4961	4966	4	.4
3500	360	30	3.03	33	38	42	46	50	6721	6743	6766	5737	5764	5790	5	.4
3500	400	30	2.96	27	30	34	37	40	6723	6740	6756	5741	5760	5779	5	.4
3500	440	30	2.89	21	24	27	29	32	6729	6741	6752	5747	5761	5774	5	.4
3500	480	30	2.83	17	19	21	24	26	6737	6746	6755	5756	5767	5777	5	.4
3500	520	30	2.77	10	12	14	15	17	6740	6746	6753	5760	5767	5775	5	.4
3500	560	30	2.72	2	4	5	7	8	6741	6746	6752	5761	5767	5773	5	.4
4000	360	30	3.43	35	39	43	48	52	7657	7682	7708	6529	6559	6589	6	.4
4000	400	30	3.35	29	32	35	39	42	7661	7680	7698	6534	6556	6577	6	.4
4000	440	30	3.27	23	26	28	31	34	7669	7682	7695	6543	6558	6574	6	.4
4000	480	30	3.20	19	21	23	25	27	7679	7689	7699	6555	6566	6578	5	.4
4000	520	30	3.13	11	13	15	17	18	7683	7690	7697	6560	6568	6576	5	.4
4000	560	30	3.07	3	4	6	8	9	7684	7690	7696	6561	6568	6575	5	.4
4500	360	30	3.85	37	41	45	49	54	8587	8615	8643	7314	7347	7379	6	.4
4500	400	30	3.75	30	34	37	40	44	8593	8613	8634	7321	7344	7368	6	.4
4500	440	30	3.66	25	27	30	33	35	8603	8617	8631	7332	7349	7366	6	.4
4500	480	30	3.58	20	22	25	27	29	8615	8626	8637	7347	7359	7372	6	.4
4500	520	30	3.51	13	14	16	18	20	8620	8628	8636	7353	7362	7371	6	.4
4500	560	30	3.43	4	5	7	9	10	8622	8629	8635	7354	7362	7370	6	.4
5000	360	30	4.28	39	43	47	51	56	9511	9541	9571	8090	8126	8162	7	.4
5000	400	30	4.17	32	35	39	42	45	9519	9541	9562	8100	8125	8151	7	.4
5000	440	30	4.08	26	29	32	34	37	9531	9546	9562	8114	8132	8150	7	.4
5000	480	30	3.98	22	24	26	28	30	9545	9557	9569	8131	8145	8159	7	.4
5000	520	30	3.89	14	16	17	19	21	9552	9560	9568	8139	8148	8158	7	.4
5000	560	30	3.81	5	6	8	10	11	9554	9561	9569	8141	8150	8158	6	.4
4000	360	45	2.54	22	25	29	32	36	5556	5565	5574	3856	3868	3881	4	.6
4000	400	45	2.48	17	19	22	25	28	5557	5563	5570	3857	3866	3876	4	.5
4000	440	45	2.43	12	14	17	19	21	5559	5564	5568	3860	3867	3874	4	.5
4000	480	45	2.38	9	11	12	14	16	5562	5565	5569	3865	3870	3875	4	.5
4000	520	45	2.33	3	4	5	7	8	5563	5565	5568	3866	3869	3873	4	.5
4000	560	45	2.28	-5	-4	-3	-2	-0	5562	5564	5566	3864	3867	3870	4	.5
4500	360	45	2.80	23	26	30	33	37	6244	6254	6264	4329	4343	4357	5	.5
4500	400	45	2.74	18	20	23	26	29	6245	6253	6260	4331	4341	4351	5	.5
4500	440	45	2.68	13	15	17	20	22	6248	6253	6258	4335	4342	4349	5	.5
4500	480	45	2.62	10	12	13	15	17	6252	6256	6260	4340	4346	4351	4	.5
4500	520	45	2.57	3	4	6	7	9	6253	6255	6258	4341	4345	4349	4	.5
4500	560	45	2.51	-5	-4	-3	-1	-0	6251	6254	6256	4339	4343	4346	4	.5
5000	360	45	3.08	24	27	31	34	37	6931	6942	6953	4800	4816	4831	5	.5
5000	400	45	3.00	19	21	24	27	29	6933	6941	6949	4802	4814	4825	5	.5
5000	440	45	2.94	14	16	18	20	23	6936	6942	6947	4807	4815	4823	5	.5
5000	480	45	2.87	11	12	14	16	18	6940	6945	6949	4813	4820	4826	5	.5
5000	520	45	2.81	3	5	6	8	9	6941	6944	6947	4815	4819	4823	5	.5
5000	560	45	2.75	-5	-4	-2	-1	0	6940	6942	6945	4812	4816	4820	5	.5
5500	360	45	3.36	25	28	32	35	38	7616	7628	7640	5269	5286	5303	6	.5
5500	400	45	3.28	19	22	25	28	30	7619	7627	7636	5272	5285	5297	6	.5
5500	440	45	3.20	15	17	19	21	24	7623	7629	7635	5278	5287	5296	5	.5
5500	480	45	3.13	11	13	15	16	18	7628	7632	7637	5285	5292	5298	5	.5
5500	520	45	3.07	3	5	6	8	9	7628	7631	7635	5286	5290	5295	5	.5
5500	560	45	3.00	-5	-4	-2	-1	0	7627	7630	7633	5284	5288	5292	5	.5
6000	360	45	3.65	26	29	33	36	39	8301	8313	8326	5736	5754	5773	6	.5
6000	400	45	3.56	20	23	26	28	31	8303	8313	8322	5740	5753	5767	6	.5
6000	440	45	3.48	16	18	20	22	24	8308	8315	8321	5747	5756	5766	6	.5
6000	480	45	3.40	12	14	15	17	19	8314	8319	8323	5755	5762	5769	6	.5
6000	520	45	3.32	3	5	6	8	9	8314	8317	8321	5755	5760	5765	6	.5
6000	560	45	3.25	-5	-3	-2	-1	1	8313	8316	8319	5754	5758	5763	5	.5

Table 6-35. (Sheet 6)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH MK-1, MK-5, AND MK-61 WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
7000	360	45	4.25	28	31	35	38	42	9664	9679	9693	6663	6684	6705	7	.5
7000	400	45	4.15	22	25	28	30	33	9668	9679	9689	6669	6684	6699	7	.5
7000	440	45	4.05	17	20	22	24	26	9675	9682	9690	6678	6689	6700	7	.5
7000	480	45	3.96	12	14	16	18	19	9680	9685	9691	6686	6694	6702	7	.5
7000	520	45	3.87	3	5	6	8	9	9681	9685	9689	6687	6693	6699	7	.5
7000	560	45	3.78	-4	-3	-2	-0	1	9681	9684	9688	6687	6692	6698	6	.5
8000	360	45	4.89	30	34	37	40	44	11021	11037	11053	7580	7604	7627	8	.5
8000	400	45	4.77	24	27	30	32	35	11027	11038	11050	7589	7606	7622	8	.5
8000	440	45	4.65	19	22	24	26	28	11035	11044	11052	7601	7613	7626	8	.5
8000	480	45	4.54	13	14	16	18	19	11040	11046	11052	7608	7616	7625	8	.5
8000	520	45	4.43	4	5	7	8	10	11042	11047	11052	7611	7618	7625	7	.5
8000	560	45	4.33	-4	-3	-1	0	2	11043	11047	11051	7612	7618	7624	7	.5
6500	360	60	3.25	12	15	17	19	22	7438	7443	7447	3616	3625	3635	5	.6
6500	400	60	3.17	8	10	12	14	16	7439	7443	7446	3618	3625	3632	5	.6
6500	440	60	3.10	5	6	8	9	11	7441	7444	7446	3623	3627	3632	5	.6
6500	480	60	3.03	2	3	4	5	7	7443	7445	7447	3626	3630	3633	5	.6
7000	360	60	3.48	13	15	17	20	22	8008	8013	8018	3889	3899	3909	6	.6
7000	400	60	3.40	9	10	12	14	16	8009	8013	8016	3892	3899	3907	6	.6
7000	440	60	3.32	5	7	8	10	11	8011	8014	8017	3896	3902	3907	6	.6
7000	480	60	3.24	1	3	4	5	6	8013	8015	8017	3899	3903	3907	5	.6
7000	520	60	3.17	-7	-6	-5	-4	-3	8012	8013	8015	3898	3901	3903	5	.6
7000	560	60	3.10	-14	-13	-12	-11	-10	8010	8012	8013	3895	3897	3900	5	.6
7500	360	60	3.72	13	16	18	20	23	8577	8582	8587	4161	4172	4183	6	.6
7500	400	60	3.63	9	11	13	15	17	8579	8582	8586	4165	4172	4180	6	.6
7500	440	60	3.54	6	7	9	10	12	8581	8584	8587	4170	4175	4181	6	.6
7500	480	60	3.46	1	2	4	5	6	8582	8584	8586	4172	4176	4180	6	.6
7500	520	60	3.38	-7	-6	-5	-4	-3	8582	8583	8585	4171	4174	4177	6	.6
7500	560	60	3.31	-14	-13	-12	-11	-10	8580	8581	8583	4167	4170	4173	6	.6
8000	360	60	3.96	14	16	19	21	23	9146	9151	9157	4432	4444	4455	7	.6
8000	400	60	3.86	9	11	13	15	17	9148	9152	9156	4436	4445	4453	7	.6
8000	440	60	3.77	6	8	9	11	12	9151	9153	9156	4442	4448	4454	6	.6
8000	480	60	3.68	1	2	3	4	6	9151	9153	9155	4444	4448	4452	6	.6
8000	520	60	3.60	-7	-6	-5	-4	-3	9151	9152	9154	4443	4446	4449	6	.6
8000	560	60	3.52	-15	-14	-13	-12	-11	9149	9150	9152	4439	4442	4445	6	.6
8500	360	60	4.20	14	17	19	22	24	9714	9720	9726	4702	4715	4727	7	.6
8500	400	60	4.10	10	12	14	16	18	9716	9721	9725	4707	4716	4725	7	.6
8500	440	60	4.00	7	8	10	11	13	9720	9723	9726	4714	4720	4727	7	.6
8500	480	60	3.91	1	2	3	4	6	9720	9722	9725	4715	4720	4724	7	.6
8500	520	60	3.82	-7	-6	-5	-4	-3	9720	9721	9723	4714	4717	4721	6	.6
8500	560	60	3.73	-15	-14	-13	-12	-11	9718	9719	9721	4710	4713	4717	6	.6
9000	360	60	4.45	15	17	20	22	25	10282	10288	10295	4972	4985	4998	8	.6
9000	400	60	4.34	10	12	14	16	18	10285	10289	10293	4978	4987	4996	7	.6
9000	440	60	4.24	7	9	10	12	13	10288	10292	10295	4985	4992	4998	7	.6
9000	480	60	4.14	1	2	3	5	6	10289	10291	10293	4986	4991	4996	7	.6
9000	520	60	4.04	-7	-6	-5	-4	-3	10288	10290	10292	4984	4988	4992	7	.6
9000	560	60	3.95	-15	-14	-13	-12	-11	10286	10288	10290	4980	4984	4988	7	.6
10000	360	60	4.97	16	18	21	23	26	11417	11424	11430	5508	5522	5536	8	.6
10000	400	60	4.84	12	13	15	17	19	11420	11425	11430	5516	5525	5535	8	.6
10000	440	60	4.72	8	10	11	13	14	11425	11428	11431	5525	5532	5539	8	.6
10000	480	60	4.61	1	2	3	5	6	11425	11427	11430	5525	5530	5535	8	.6
10000	520	60	4.50	-8	-7	-5	-4	-3	11424	11426	11428	5523	5527	5531	8	.6
10000	560	60	4.40	-14	-13	-12	-11	-10	11423	11424	11426	5520	5524	5528	7	.6
11000	360	60	5.51	17	20	22	24	27	12550	12557	12564	6041	6056	6071	9	.7
11000	400	60	5.36	13	15	16	18	20	12554	12559	12564	6050	6060	6071	9	.6
11000	440	60	5.23	9	11	12	14	15	12559	12562	12566	6060	6068	6075	9	.6
11000	480	60	5.10	0	1	2	4	5	12558	12561	12563	6058	6064	6069	9	.6
11000	520	60	4.98	-8	-7	-6	-5	-4	12557	12560	12562	6057	6062	6067	8	.6
11000	560	60	4.86	-14	-13	-12	-11	-10	12557	12560	12562	6057	6062	6066	8	.6
12000	360	60	6.07	18	21	23	26	28	13681	13688	13696	6570	6586	6602	10	.7
12000	400	60	5.90	14	16	18	20	21	13686	13691	13697	6581	6592	6603	10	.6
12000	440	60	5.75	9	10	12	13	15	13690	13694	13697	6588	6597	6605	10	.6
12000	480	60	5.60	-0	1	2	3	5	13690	13693	13696	6589	6595	6601	9	.6
12000	520	60	5.47	-9	-7	-6	-5	-4	13689	13692	13695	6588	6593	6598	9	.6
12000	560	60	5.34	-13	-12	-11	-10	-9	13691	13694	13696	6591	6596	6601	9	.6

Table 6-35. (Sheet 7)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH MK-1, MK-5, AND MK-61 WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
900	360	10	2.19	35	40	45	49	54	4621	4672	4725	4532	4585	4639	4	.2
900	400	10	2.13	28	32	35	39	43	4621	4658	4696	4533	4570	4609	4	.2
900	440	10	2.08	22	25	28	31	34	4630	4656	4683	4541	4568	4596	4	.1
900	480	10	2.04	17	19	22	24	27	4643	4663	4683	4555	4575	4596	3	.1
900	520	10	2.00	8	10	11	13	15	4642	4656	4670	4554	4568	4583	3	.1
900	560	10	1.96	-1	1	3	5	7	4641	4654	4666	4553	4566	4579	3	.1
1250	360	10	2.82	39	43	48	53	58	6299	6367	6436	6174	6243	6314	5	.1
1250	400	10	2.75	31	35	39	43	46	6304	6352	6401	6179	6228	6278	5	.1
1250	440	10	2.68	25	28	31	34	37	6319	6354	6389	6195	6230	6266	5	.1
1250	480	10	2.63	20	22	25	27	29	6340	6366	6392	6215	6242	6269	4	.1
1250	520	10	2.57	10	12	14	16	18	6340	6359	6378	6216	6235	6254	4	.1
1250	560	10	2.52	2	4	5	7	9	6342	6360	6377	6218	6235	6253	4	.1
1250	360	15	2.13	34	38	43	48	52	4484	4518	4552	4306	4341	4377	4	.2
1250	400	15	2.07	27	30	34	38	41	4484	4508	4533	4306	4331	4357	4	.2
1250	440	15	2.03	21	24	27	30	33	4490	4507	4524	4312	4330	4348	3	.2
1250	480	15	1.99	16	18	20	23	25	4498	4511	4524	4320	4334	4348	3	.2
1250	520	15	1.95	6	8	10	12	14	4496	4505	4514	4319	4328	4338	3	.2
1250	560	15	1.91	-2	-0	2	3	5	4495	4503	4512	4318	4326	4335	3	.2
1500	360	15	2.44	36	40	45	49	54	5346	5386	5426	5131	5173	5215	4	.2
1500	400	15	2.38	28	32	36	39	43	5347	5376	5405	5133	5162	5192	4	.2
1500	440	15	2.33	22	25	28	31	34	5355	5376	5396	5141	5162	5184	4	.2
1500	480	15	2.28	17	19	21	24	26	5365	5380	5395	5151	5166	5182	4	.2
1500	520	15	2.23	7	9	11	13	15	5364	5375	5386	5150	5161	5172	4	.2
1500	560	15	2.18	-1	1	3	4	6	5364	5374	5384	5150	5160	5171	4	.2
1750	360	15	2.76	37	42	47	51	56	6199	6244	6290	5947	5994	6042	5	.2
1750	400	15	2.69	30	34	37	41	45	6202	6234	6267	5950	5984	6018	5	.2
1750	440	15	2.63	24	27	30	33	36	6212	6236	6259	5961	5985	6010	4	.2
1750	480	15	2.57	18	20	23	25	27	6223	6240	6258	5972	5990	6008	4	.2
1750	520	15	2.52	8	10	12	14	16	6223	6236	6248	5972	5985	5998	4	.2
1750	560	15	2.47	0	2	4	6	7	6224	6236	6248	5973	5985	5997	4	.2
1500	360	20	2.01	32	36	41	45	50	4164	4187	4210	3884	3909	3934	3	.3
1500	400	20	1.96	25	28	32	35	39	4164	4180	4197	3884	3902	3920	3	.3
1500	440	20	1.92	19	22	25	28	31	4167	4179	4191	3888	3901	3914	3	.3
1500	480	20	1.88	14	16	18	20	23	4172	4181	4190	3893	3903	3912	3	.3
1500	520	20	1.84	4	6	8	10	12	4171	4177	4183	3892	3898	3905	3	.3
1500	560	20	1.80	-4	-2	-0	1	3	4170	4175	4181	3890	3897	3903	3	.3
1750	360	20	2.24	33	38	42	47	51	4840	4866	4893	4512	4541	4570	4	.3
1750	400	20	2.19	26	29	33	37	40	4840	4859	4878	4513	4533	4554	4	.3
1750	440	20	2.14	20	23	26	29	32	4845	4859	4873	4518	4533	4547	4	.3
1750	480	20	2.10	14	17	19	21	23	4850	4860	4870	4524	4534	4545	4	.3
1750	520	20	2.05	5	7	9	10	12	4849	4856	4864	4522	4530	4538	3	.3
1750	560	20	2.01	-3	-1	1	2	4	4848	4855	4862	4521	4529	4536	3	.3
2000	360	20	2.49	34	39	43	48	52	5512	5542	5572	5136	5168	5201	4	.3
2000	400	20	2.43	27	31	34	38	42	5513	5534	5556	5137	5160	5183	4	.3
2000	440	20	2.37	21	24	27	30	33	5519	5535	5550	5144	5161	5177	4	.3
2000	480	20	2.32	15	17	20	22	24	5525	5536	5547	5150	5162	5174	4	.3
2000	520	20	2.27	5	7	9	11	13	5524	5532	5541	5149	5158	5167	4	.3
2000	560	20	2.23	-2	-1	1	3	5	5524	5531	5539	5149	5157	5165	4	.2
2000	360	30	1.90	27	31	36	40	44	3883	3896	3908	3328	3343	3358	3	.4
2000	400	30	1.86	21	24	27	31	34	3883	3892	3901	3328	3339	3349	3	.4
2000	440	30	1.82	15	18	21	23	26	3885	3892	3898	3331	3338	3346	3	.4
2000	480	30	1.78	10	12	14	16	18	3887	3891	3896	3333	3338	3344	3	.4
2000	520	30	1.74	0	2	4	6	8	3886	3889	3893	3331	3335	3339	3	.4
2000	560	30	1.71	-7	-5	-4	-2	-1	3884	3888	3891	3330	3334	3338	3	.4
2250	360	30	2.06	28	32	36	40	45	4361	4375	4390	3736	3753	3769	3	.4
2250	400	30	2.01	21	25	28	31	35	4361	4372	4382	3736	3748	3760	3	.4
2250	440	30	1.97	16	19	21	24	27	4364	4371	4379	3739	3748	3756	3	.4
2250	480	30	1.93	10	12	14	16	18	4366	4371	4376	3741	3748	3754	3	.4
2250	520	30	1.89	1	3	4	6	8	4365	4369	4373	3740	3745	3749	3	.4
2250	560	30	1.85	-7	-5	-3	-2	-0	4364	4367	4371	3739	3743	3747	3	.4
2500	360	30	2.23	29	33	37	41	45	4839	4854	4870	4143	4161	4180	4	.4
2500	400	30	2.17	22	26	29	32	35	4839	4850	4861	4143	4156	4169	4	.4
2500	440	30	2.13	17	19	22	25	28	4842	4850	4858	4147	4156	4166	4	.4
2500	480	30	2.08	10	13	15	17	19	4844	4850	4855	4149	4156	4162	4	.4
2500	520	30	2.04	1	3	5	7	9	4843	4848	4852	4148	4153	4158	3	.4
2500	560	30	2.00	-6	-5	-3	-1	0	4842	4846	4850	4147	4151	4156	3	.4

Table 6-35. (Sheet 8)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH MK-1, MK-5, AND MK-61 WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	FT/KT	MIL/KT
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS											WIND CORRECTIONS FACTORS	
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
2750	360	30	2.39	30	34	38	42	46	5315	5332	5349	4548	4568	4588	4	.4
2750	400	30	2.34	23	26	30	33	36	5316	5328	5340	4549	4563	4577	4	.4
2750	440	30	2.29	18	20	23	26	28	5319	5328	5337	4553	4564	4574	4	.4
2750	480	30	2.24	11	13	15	17	19	5321	5327	5333	4555	4562	4570	4	.4
2750	520	30	2.19	2	4	5	7	9	5320	5325	5330	4555	4560	4566	4	.4
2750	560	30	2.15	-6	-4	-3	-1	1	5319	5324	5328	4553	4558	4564	4	.4
3000	360	30	2.57	30	35	39	43	47	5790	5808	5827	4952	4974	4995	4	.4
3000	400	30	2.51	24	27	30	34	37	5791	5804	5817	4953	4969	4984	4	.4
3000	440	30	2.45	18	21	24	26	29	5795	5805	5815	4959	4970	4981	4	.4
3000	480	30	2.40	11	13	15	17	19	5797	5803	5810	4960	4968	4976	4	.4
3000	520	30	2.35	2	4	6	8	9	5797	5802	5807	4960	4966	4972	4	.4
3000	560	30	2.30	-6	-4	-2	-1	1	5795	5800	5805	4959	4964	4970	4	.3
3500	360	30	2.92	32	36	40	44	49	6736	6757	6779	5756	5780	5805	5	.4
3500	400	30	2.85	25	28	32	35	38	6738	6753	6768	5758	5775	5793	5	.4
3500	440	30	2.78	20	22	25	28	30	6744	6755	6766	5765	5778	5791	5	.4
3500	480	30	2.72	12	14	16	18	20	6746	6753	6761	5766	5776	5785	5	.4
3500	520	30	2.66	3	5	7	8	10	6746	6752	6758	5767	5774	5782	4	.3
3500	560	30	2.61	-5	-4	-2	-0	2	6745	6751	6756	5766	5772	5779	4	.3
4000	360	30	3.28	34	38	42	46	50	7677	7701	7725	6553	6581	6609	6	.4
4000	400	30	3.20	27	30	33	36	40	7681	7697	7714	6557	6576	6596	5	.4
4000	440	30	3.13	21	24	26	29	32	7689	7701	7713	6566	6580	6595	5	.4
4000	480	30	3.06	13	15	17	19	21	7690	7699	7708	6568	6578	6588	5	.4
4000	520	30	2.99	4	6	7	9	11	7691	7698	7705	6569	6577	6586	5	.3
4000	560	30	2.93	-4	-3	-1	1	2	7690	7697	7704	6568	6576	6584	5	.3
4500	360	30	3.66	35	39	44	48	52	8613	8640	8666	7344	7375	7406	6	.4
4500	400	30	3.57	28	31	35	38	41	8618	8636	8655	7350	7371	7393	6	.4
4500	440	30	3.49	23	25	28	31	33	8628	8641	8655	7362	7377	7393	6	.4
4500	480	30	3.41	14	16	18	20	22	8631	8640	8650	7365	7376	7387	6	.3
4500	520	30	3.33	5	6	8	10	12	8631	8639	8647	7365	7375	7384	6	.3
4500	560	30	3.26	-3	-2	0	2	4	8632	8640	8647	7366	7375	7384	6	.3
5000	360	30	4.05	37	41	45	49	54	9543	9572	9601	8128	8162	8196	7	.4
5000	400	30	3.95	30	33	36	40	43	9550	9570	9590	8136	8160	8183	7	.4
5000	440	30	3.86	24	27	29	32	34	9562	9577	9591	8150	8168	8185	7	.4
5000	480	30	3.77	15	17	19	21	23	9564	9575	9585	8153	8165	8178	6	.3
5000	520	30	3.68	5	7	9	11	13	9567	9576	9584	8156	8166	8177	6	.3
5000	560	30	3.60	-2	-0	1	3	5	9569	9578	9586	8159	8169	8179	6	.3
4000	360	45	2.46	21	24	28	31	35	5561	5570	5578	3864	3876	3888	4	.5
4000	400	45	2.40	15	18	21	24	26	5562	5568	5574	3865	3873	3882	4	.5
4000	440	45	2.35	11	13	15	18	20	5564	5569	5573	3868	3874	3881	4	.5
4000	480	45	2.30	4	6	7	9	11	5564	5567	5570	3868	3872	3877	4	.5
4000	520	45	2.25	-5	-3	-2	-0	1	5563	5566	5568	3866	3870	3873	4	.5
4000	560	45	2.21	-13	-11	-10	-8	-7	5561	5564	5566	3864	3867	3870	4	.5
4500	360	45	2.71	22	25	29	32	36	6251	6260	6269	4338	4352	4365	5	.5
4500	400	45	2.64	16	19	22	24	27	6252	6258	6265	4340	4349	4359	4	.5
4500	440	45	2.58	12	14	16	18	21	6255	6260	6264	4344	4351	4358	4	.5
4500	480	45	2.53	5	6	8	10	11	6255	6258	6261	4344	4349	4354	4	.5
4500	520	45	2.47	-5	-3	-2	0	2	6253	6256	6259	4342	4346	4350	4	.5
4500	560	45	2.42	-12	-11	-9	-8	-6	6252	6254	6257	4340	4343	4347	4	.5
5000	360	45	2.96	23	26	30	33	36	6939	6949	6960	4811	4826	4841	5	.5
5000	400	45	2.89	17	20	22	25	28	6941	6948	6955	4814	4824	4834	5	.5
5000	440	45	2.82	13	15	17	19	21	6944	6949	6954	4819	4826	4834	5	.5
5000	480	45	2.76	4	6	8	9	11	6943	6947	6951	4817	4823	4828	5	.5
5000	520	45	2.70	-4	-3	-1	0	2	6942	6945	6948	4816	4820	4825	5	.5
5000	560	45	2.64	-12	-10	-9	-7	-6	6941	6944	6947	4814	4818	4823	4	.5
5500	360	45	3.22	24	27	30	34	37	7626	7637	7648	5283	5299	5315	5	.5
5500	400	45	3.14	18	20	23	26	29	7628	7636	7644	5286	5297	5308	5	.5
5500	440	45	3.07	13	15	17	20	22	7632	7638	7643	5291	5299	5308	5	.5
5500	480	45	3.00	4	6	8	9	11	7631	7635	7639	5289	5295	5301	5	.5
5500	520	45	2.93	-4	-3	-1	0	2	7630	7633	7637	5288	5293	5298	5	.5
5500	560	45	2.87	-11	-10	-8	-7	-5	7629	7633	7636	5287	5292	5297	5	.5
6000	360	45	3.48	24	28	31	35	38	8312	8324	8336	5752	5769	5787	6	.5
6000	400	45	3.39	18	21	24	27	29	8314	8323	8331	5756	5768	5780	6	.5
6000	440	45	3.32	14	16	18	20	22	8319	8325	8331	5762	5771	5780	6	.5
6000	480	45	3.24	4	6	7	9	11	8317	8321	8326	5760	5766	5772	5	.5
6000	520	45	3.17	-4	-3	-1	0	2	8316	8320	8324	5759	5764	5770	5	.5
6000	560	45	3.10	-11	-9	-8	-6	-5	8317	8320	8324	5759	5764	5769	5	.5

Table 6-35. (Sheet 9)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH MK-1, MK-5, AND MK-61 WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
7000	360	45	4.02	26	30	33	36	40	9680	9693	9707	6685	6705	6725	7	.5
7000	400	45	3.92	20	23	26	28	31	9684	9693	9702	6691	6705	6718	7	.5
7000	440	45	3.83	14	16	18	20	22	9687	9694	9701	6696	6706	6716	6	.5
7000	480	45	3.74	4	6	8	9	11	9687	9692	9697	6696	6703	6710	6	.5
7000	520	45	3.65	-4	-3	-1	1	2	9686	9691	9695	6695	6701	6708	6	.5
7000	560	45	3.58	-9	-8	-6	-5	-3	9689	9693	9697	6698	6705	6711	6	.5
8000	360	45	4.59	28	31	35	38	41	11042	11057	11072	7611	7633	7654	8	.5
8000	400	45	4.47	22	25	27	30	33	11048	11058	11069	7619	7635	7650	8	.5
8000	440	45	4.36	14	16	18	20	22	11050	11057	11065	7622	7633	7644	7	.5
8000	480	45	4.26	5	6	8	10	12	11052	11057	11063	7625	7633	7641	7	.5
8000	520	45	4.16	-4	-3	-1	1	2	11051	11056	11061	7624	7631	7639	7	.5
8000	560	45	4.07	-8	-6	-5	-3	-2	11057	11062	11067	7632	7640	7647	7	.5
6500	360	60	3.11	11	13	16	18	21	7442	7446	7451	3624	3633	3642	5	.6
6500	400	60	3.04	7	9	11	13	14	7443	7446	7449	3627	3633	3639	5	.6
6500	440	60	2.97	3	4	6	7	9	7444	7447	7449	3629	3633	3638	5	.6
7000	360	60	3.32	11	14	16	19	21	8012	8017	8021	3898	3907	3917	6	.6
7000	400	60	3.24	7	9	11	13	15	8014	8017	8020	3901	3908	3914	5	.6
7000	440	60	3.17	3	4	6	7	8	8014	8017	8019	3903	3907	3912	5	.6
7000	480	60	3.10	-6	-5	-4	-3	-1	8013	8015	8017	3900	3904	3907	5	.6
7000	520	60	3.03	-14	-13	-12	-11	-10	8011	8013	8015	3897	3900	3903	5	.6
7000	560	60	2.97	-19	-18	-17	-16	-14	8011	8013	8014	3896	3899	3902	5	.5
7500	360	60	3.54	12	14	17	19	22	8582	8587	8592	4171	4181	4192	6	.6
7500	400	60	3.45	8	10	11	13	15	8584	8587	8591	4175	4182	4189	6	.6
7500	440	60	3.37	2	4	5	7	8	8584	8586	8589	4176	4181	4186	6	.6
7500	480	60	3.29	-7	-5	-4	-3	-2	8583	8585	8587	4174	4178	4181	6	.6
7500	520	60	3.22	-14	-13	-12	-11	-10	8581	8583	8584	4170	4173	4177	5	.6
7500	560	60	3.15	-18	-17	-16	-15	-14	8582	8583	8585	4171	4174	4177	5	.5
8000	360	60	3.76	12	15	17	20	22	9151	9157	9162	4444	4455	4465	6	.6
8000	400	60	3.66	8	10	12	14	16	9154	9157	9161	4448	4456	4463	6	.6
8000	440	60	3.58	2	3	5	6	8	9153	9156	9158	4448	4453	4458	6	.6
8000	480	60	3.50	-7	-5	-4	-3	-2	9153	9155	9157	4447	4451	4455	6	.6
8000	520	60	3.42	-15	-14	-12	-11	-10	9150	9152	9154	4442	4446	4449	6	.6
8000	560	60	3.34	-18	-17	-16	-15	-14	9152	9153	9155	4444	4448	4451	6	.5
8500	360	60	3.98	13	15	18	20	22	9721	9726	9732	4716	4727	4739	7	.6
8500	400	60	3.88	9	10	12	14	16	9723	9727	9731	4721	4729	4737	7	.6
8500	440	60	3.78	2	3	5	6	8	9723	9725	9728	4721	4726	4732	6	.6
8500	480	60	3.70	-7	-6	-5	-3	-2	9722	9724	9726	4719	4723	4727	6	.6
8500	520	60	3.61	-15	-14	-12	-11	-10	9720	9722	9724	4714	4719	4723	6	.5
8500	560	60	3.53	-18	-17	-15	-14	-13	9722	9723	9725	4718	4722	4725	6	.5
9000	360	60	4.20	13	16	18	20	23	10290	10295	10301	4988	4999	5011	7	.6
9000	400	60	4.09	9	11	13	15	16	10292	10296	10300	4993	5002	5010	7	.6
9000	440	60	3.99	2	3	5	6	8	10292	10295	10298	4993	4998	5004	7	.6
9000	480	60	3.90	-7	-6	-5	-4	-2	10291	10293	10295	4990	4994	4999	7	.6
9000	520	60	3.81	-15	-14	-12	-11	-10	10289	10291	10293	4986	4991	4995	6	.5
9000	560	60	3.72	-17	-16	-15	-14	-13	10291	10293	10295	4991	4995	4999	6	.5
10000	360	60	4.65	14	16	19	21	23	11426	11432	11438	5528	5541	5553	8	.6
10000	400	60	4.53	10	12	13	15	17	11430	11434	11438	5535	5544	5553	8	.6
10000	440	60	4.42	1	2	3	5	6	11428	11431	11434	5532	5538	5544	7	.6
10000	480	60	4.31	-8	-7	-6	-4	-3	11427	11429	11432	5529	5535	5540	7	.6
10000	520	60	4.21	-15	-13	-12	-11	-10	11427	11429	11431	5529	5534	5538	7	.5
10000	560	60	4.11	-17	-16	-14	-13	-12	11430	11432	11434	5535	5540	5544	7	.5
11000	360	60	5.12	15	17	19	22	24	12562	12568	12575	6066	6079	6093	9	.6
11000	400	60	4.98	10	11	13	15	17	12565	12569	12574	6073	6082	6091	8	.6
11000	440	60	4.85	-1	1	2	4	5	12563	12566	12569	6068	6075	6082	8	.6
11000	480	60	4.73	-10	-8	-7	-6	-4	12562	12565	12567	6066	6072	6078	8	.6
11000	520	60	4.62	-14	-13	-12	-10	-9	12563	12566	12569	6070	6075	6080	8	.5
11000	560	60	4.51	-16	-15	-14	-12	-11	12567	12570	12572	6078	6083	6088	8	.5
12000	360	60	5.59	16	18	20	23	25	13696	13703	13709	6601	6615	6629	9	.6
12000	400	60	5.44	9	10	12	14	15	13697	13702	13707	6604	6614	6623	9	.6
12000	440	60	5.30	-1	0	2	3	5	13697	13701	13704	6604	6611	6618	9	.6
12000	480	60	5.16	-10	-9	-7	-6	-5	13696	13699	13702	6601	6607	6614	9	.6
12000	520	60	5.03	-13	-12	-11	-10	-8	13699	13702	13705	6609	6615	6621	8	.5
12000	560	60	4.91	-15	-14	-13	-12	-11	13704	13707	13710	6618	6624	6630	8	.5

Table 6-36. (Sheet 1)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH M151, M156, AND WTU-1/B WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS											WIND CORRECTIONS FACTORS	
				12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0		
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
900	360	10	2.59	40	44	48	52	57	4526	4596	4668	4435	4507	4580	4	.2
900	400	10	2.51	33	36	40	43	47	4521	4572	4625	4430	4483	4536	4	.2
900	440	10	2.45	27	30	33	36	39	4528	4566	4605	4437	4477	4516	4	.2
900	480	10	2.39	22	25	27	29	32	4541	4570	4599	4451	4480	4510	4	.2
900	520	10	2.34	18	20	22	24	26	4558	4579	4601	4468	4490	4512	4	.2
900	560	10	2.30	15	16	18	20	21	4579	4595	4611	4490	4506	4522	4	.2
1250	360	10	3.46	45	50	54	58	63	6104	6192	6282	5975	6064	6156	6	.2
1250	400	10	3.36	38	42	45	49	52	6106	6171	6236	5977	6043	6110	6	.2
1250	440	10	3.28	32	35	38	41	44	6122	6170	6219	5993	6042	6092	6	.2
1250	480	10	3.20	27	30	32	35	37	6145	6181	6218	6016	6053	6091	5	.2
1250	520	10	3.14	23	25	27	29	31	6173	6200	6228	6045	6073	6101	5	.2
1250	560	10	3.08	19	21	23	24	26	6205	6225	6246	6078	6099	6119	5	.2
1250	360	15	2.51	38	42	46	51	55	4422	4469	4517	4242	4291	4341	4	.3
1250	400	15	2.44	31	35	38	41	45	4419	4454	4489	4239	4275	4311	4	.3
1250	440	15	2.38	26	28	31	34	37	4424	4449	4475	4243	4270	4297	4	.3
1250	480	15	2.33	21	23	26	28	30	4432	4452	4471	4252	4272	4293	4	.2
1250	520	15	2.28	17	19	21	23	25	4444	4458	4472	4264	4279	4294	4	.2
1250	560	15	2.23	14	15	17	18	20	4457	4468	4478	4279	4289	4300	4	.2
1500	360	15	2.95	41	45	49	53	58	5254	5309	5364	5036	5092	5150	5	.3
1500	400	15	2.86	34	37	41	44	48	5253	5293	5333	5034	5076	5118	5	.3
1500	440	15	2.79	28	31	34	37	40	5260	5290	5320	5042	5073	5104	5	.3
1500	480	15	2.73	23	26	28	30	33	5272	5294	5317	5054	5077	5101	5	.2
1500	520	15	2.67	19	21	23	25	27	5287	5304	5320	5070	5087	5105	5	.2
1500	560	15	2.62	16	17	19	21	22	5305	5317	5329	5088	5101	5114	4	.2
1750	360	15	3.41	44	48	52	56	61	6068	6129	6191	5810	5874	5939	6	.3
1750	400	15	3.31	37	40	44	47	50	6069	6114	6159	5811	5858	5906	6	.3
1750	440	15	3.23	31	34	37	39	42	6080	6114	6147	5823	5858	5893	5	.3
1750	480	15	3.15	26	28	31	33	35	6096	6121	6146	5839	5865	5892	5	.3
1750	520	15	3.09	22	24	26	28	30	6115	6134	6153	5859	5879	5899	5	.2
1750	560	15	3.02	18	20	21	23	25	6137	6151	6164	5882	5896	5911	5	.2
1500	360	20	2.35	35	39	44	48	52	4125	4158	4191	3843	3878	3913	4	.3
1500	400	20	2.29	29	32	35	39	42	4123	4146	4171	3840	3866	3891	4	.3
1500	440	20	2.23	24	26	29	32	35	4125	4143	4161	3843	3862	3881	4	.3
1500	480	20	2.18	19	21	24	26	28	4131	4144	4158	3849	3863	3878	4	.3
1500	520	20	2.14	15	17	19	21	23	4139	4148	4158	3857	3868	3878	4	.3
1500	560	20	2.09	12	13	15	17	18	4148	4155	4162	3867	3875	3882	4	.3
1750	360	20	2.68	37	42	46	50	54	4786	4823	4860	4454	4494	4534	5	.3
1750	400	20	2.61	31	34	37	41	44	4784	4811	4839	4452	4481	4511	4	.3
1750	440	20	2.55	25	28	31	34	36	4788	4808	4829	4457	4479	4501	4	.3
1750	480	20	2.49	21	23	25	28	30	4795	4811	4826	4465	4481	4497	4	.3
1750	520	20	2.43	17	19	21	23	24	4805	4816	4828	4475	4487	4499	4	.3
1750	560	20	2.38	13	15	17	18	20	4816	4825	4833	4487	4496	4505	4	.3
2000	360	20	3.03	40	44	48	52	56	5438	5480	5522	5057	5102	5147	5	.3
2000	400	20	2.94	33	36	39	43	46	5438	5468	5499	5056	5089	5122	5	.3
2000	440	20	2.87	27	30	33	36	38	5444	5466	5489	5063	5087	5112	5	.3
2000	480	20	2.80	23	25	27	29	32	5453	5470	5487	5073	5091	5110	5	.3
2000	520	20	2.74	19	20	22	24	26	5465	5478	5490	5086	5100	5113	5	.3
2000	560	20	2.69	15	16	18	20	21	5478	5487	5496	5100	5110	5120	5	.3
2000	360	30	2.21	31	34	38	42	45	3862	3880	3899	3304	3325	3347	4	.5
2000	400	30	2.15	24	27	31	34	37	3861	3874	3888	3302	3318	3334	4	.5
2000	440	30	2.10	20	22	25	27	30	3862	3872	3882	3304	3316	3327	4	.5
2000	480	30	2.06	15	17	20	22	24	3866	3873	3880	3308	3317	3325	3	.5
2000	520	30	2.01	12	13	15	17	19	3870	3875	3881	3313	3319	3326	3	.5
2000	560	30	1.97	8	10	11	13	14	3875	3879	3882	3318	3323	3328	3	.4
2250	360	30	2.43	32	36	39	43	47	4335	4355	4376	3705	3729	3753	4	.5
2250	400	30	2.37	26	29	32	35	38	4334	4349	4363	3704	3721	3739	4	.5
2250	440	30	2.31	21	23	26	28	31	4336	4347	4358	3706	3719	3732	4	.5
2250	480	30	2.26	16	19	21	23	25	4340	4348	4356	3711	3721	3730	4	.5
2250	520	30	2.21	13	15	16	18	20	4345	4351	4357	3717	3724	3731	4	.4
2250	560	30	2.16	9	11	12	13	15	4350	4354	4359	3723	3728	3733	4	.4
2500	360	30	2.67	33	37	41	44	48	4805	4828	4850	4104	4130	4156	5	.5
2500	400	30	2.60	27	30	33	36	39	4805	4821	4837	4103	4122	4141	4	.5
2500	440	30	2.53	22	24	27	30	32	4808	4820	4832	4106	4121	4135	4	.5
2500	480	30	2.47	18	20	22	24	26	4812	4821	4830	4112	4122	4133	4	.5
2500	520	30	2.42	14	16	17	19	21	4818	4825	4832	4119	4127	4135	4	.4
2500	560	30	2.37	10	11	13	14	15	4824	4828	4833	4125	4131	4136	4	.4

Table 6-36. (Sheet 2)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH M151, M156, AND WTU-1/B WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
2750	360	30	2.91	34	38	42	46	49	5274	5298	5322	4500	4528	4557	5	.5
2750	400	30	2.83	28	31	34	37	40	5273	5291	5309	4500	4520	4541	5	.5
2750	440	30	2.76	23	26	28	31	33	5277	5290	5304	4504	4519	4535	5	.5
2750	480	30	2.70	19	21	23	25	27	5283	5292	5302	4510	4522	4533	5	.4
2750	520	30	2.64	15	17	18	20	22	5290	5297	5304	4519	4527	4536	4	.4
2750	560	30	2.58	11	12	13	15	16	5295	5301	5306	4525	4531	4538	4	.4
3000	360	30	3.15	36	40	43	47	51	5740	5766	5792	4893	4924	4955	5	.5
3000	400	30	3.07	29	33	36	39	42	5740	5759	5778	4894	4916	4938	5	.5
3000	440	30	3.00	24	27	29	32	35	5745	5759	5773	4899	4916	4932	5	.5
3000	480	30	2.92	20	22	24	26	28	5751	5762	5772	4907	4919	4931	5	.4
3000	520	30	2.86	16	18	20	21	23	5759	5767	5775	4916	4925	4935	5	.4
3000	560	30	2.80	11	13	14	16	17	5765	5771	5776	4923	4930	4936	5	.4
3500	360	30	3.68	39	42	46	50	54	6664	6693	6723	5671	5705	5740	6	.5
3500	400	30	3.58	32	35	38	41	45	6666	6687	6709	5673	5698	5724	6	.5
3500	440	30	3.49	27	29	32	35	37	6672	6688	6705	5681	5700	5719	6	.5
3500	480	30	3.41	22	24	26	29	31	6681	6693	6705	5691	5705	5719	6	.5
3500	520	30	3.33	19	20	22	24	26	6692	6701	6710	5704	5714	5725	6	.4
3500	560	30	3.25	13	14	16	17	18	6699	6705	6711	5711	5719	5726	5	.4
4000	360	30	4.23	42	46	49	53	57	7577	7609	7643	6435	6473	6512	7	.5
4000	400	30	4.12	35	38	41	44	48	7581	7605	7629	6439	6468	6496	7	.5
4000	440	30	4.01	30	32	35	37	40	7590	7608	7626	6450	6471	6493	7	.5
4000	480	30	3.92	25	27	29	31	33	7602	7615	7628	6464	6480	6495	7	.5
4000	520	30	3.83	21	23	25	26	28	7616	7625	7635	6481	6492	6504	6	.4
4000	560	30	3.74	15	16	17	19	20	7623	7630	7637	6489	6497	6505	6	.4
4500	360	30	4.82	45	49	53	57	60	8477	8513	8549	7184	7226	7269	8	.5
4500	400	30	4.69	38	41	45	48	51	8484	8510	8537	7192	7223	7254	8	.5
4500	440	30	4.57	33	35	38	40	43	8496	8516	8536	7207	7230	7253	8	.5
4500	480	30	4.46	28	30	32	34	36	8511	8526	8540	7224	7241	7258	8	.5
4500	520	30	4.36	24	26	27	29	31	8529	8540	8550	7245	7258	7270	7	.5
4500	560	30	4.26	17	18	20	21	23	8538	8545	8553	7256	7265	7274	7	.4
5000	360	30	5.44	49	53	56	60	64	9364	9403	9442	7918	7963	8009	9	.5
5000	400	30	5.29	42	45	48	51	54	9375	9403	9432	7930	7964	7997	9	.5
5000	440	30	5.16	36	38	41	44	46	9391	9412	9433	7949	7974	7999	9	.5
5000	480	30	5.04	31	33	35	37	39	9409	9425	9440	7971	7989	8007	9	.5
5000	520	30	4.93	27	29	30	32	34	9431	9442	9454	7997	8010	8023	8	.5
5000	560	30	4.81	20	21	22	24	25	9442	9450	9459	8010	8019	8029	8	.5
4000	360	45	3.01	25	29	32	35	38	5538	5550	5562	3830	3847	3865	5	.7
4000	400	45	2.93	20	23	25	28	30	5538	5547	5556	3831	3843	3856	5	.6
4000	440	45	2.86	16	18	20	22	24	5541	5547	5554	3834	3844	3853	5	.6
4000	480	45	2.79	12	14	16	17	19	5544	5549	5554	3839	3846	3853	5	.6
4000	520	45	2.73	9	11	12	14	15	5548	5552	5556	3845	3850	3855	5	.6
4000	560	45	2.66	4	5	6	7	8	5550	5552	5555	3847	3850	3854	4	.6
4500	360	45	3.37	27	30	33	36	39	6220	6234	6247	4295	4314	4333	6	.7
4500	400	45	3.28	22	24	27	29	32	6221	6231	6241	4296	4310	4324	6	.6
4500	440	45	3.20	17	19	22	24	26	6224	6232	6239	4300	4311	4321	5	.6
4500	480	45	3.12	14	15	17	19	20	6229	6234	6239	4306	4314	4322	5	.6
4500	520	45	3.05	11	12	13	15	16	6234	6238	6242	4314	4320	4325	5	.6
4500	560	45	2.98	5	6	7	8	9	6235	6238	6241	4316	4320	4324	5	.6
5000	360	45	3.75	29	32	35	38	41	6900	6915	6930	4755	4777	4798	6	.7
5000	400	45	3.65	23	26	28	31	33	6902	6913	6923	4758	4773	4789	6	.6
5000	440	45	3.56	19	21	23	25	27	6906	6914	6922	4764	4775	4786	6	.6
5000	480	45	3.47	15	17	18	20	22	6911	6917	6922	4771	4779	4788	6	.6
5000	520	45	3.39	12	13	15	16	18	6917	6922	6926	4780	4786	4792	6	.6
5000	560	45	3.31	6	7	8	9	10	6919	6922	6925	4783	4787	4791	6	.6
5500	360	45	4.14	30	34	37	40	43	7577	7593	7609	5212	5235	5258	7	.7
5500	400	45	4.03	25	27	30	32	35	7580	7591	7603	5216	5233	5249	7	.7
5500	440	45	3.93	20	22	24	27	29	7585	7593	7602	5223	5235	5248	7	.6
5500	480	45	3.84	16	18	20	22	23	7591	7597	7603	5232	5241	5250	6	.6
5500	520	45	3.75	13	15	16	18	19	7598	7603	7607	5243	5249	5256	6	.6
5500	560	45	3.66	7	8	9	10	11	7600	7604	7607	5246	5250	5255	6	.6
6000	360	45	4.56	32	35	38	42	45	8252	8269	8286	5665	5689	5714	8	.7
6000	400	45	4.44	27	29	32	34	37	8255	8268	8280	5670	5688	5706	7	.7
6000	440	45	4.32	22	24	26	28	30	8261	8270	8279	5679	5692	5705	7	.6
6000	480	45	4.22	18	20	21	23	25	8268	8275	8282	5689	5699	5709	7	.6
6000	520	45	4.12	15	16	17	19	20	8277	8282	8287	5701	5708	5715	7	.6
6000	560	45	4.02	7	8	9	11	12	8279	8282	8286	5704	5709	5714	7	.6

Table 6-36. (Sheet 3)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH M151, M156, AND WTU-1/B WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS SIGHT SETTING - MILS (NEG SETTING INDICATES ELEV) 12.0	14.0	16.0	18.0	20.0	SLANT RANGE - FEET 12.0	16.0	20.0	HORIZONTAL RANGE - FT 12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
7000	360	45	5.43	36	39	42	46	49	9591	9610	9629	6556	6584	6612	9	.7
7000	400	45	5.29	30	33	35	38	41	9597	9611	9625	6565	6585	6605	9	.7
7000	440	45	5.15	25	27	30	32	34	9605	9615	9626	6577	6592	6607	9	.7
7000	480	45	5.03	21	23	25	26	28	9615	9623	9630	6592	6603	6614	8	.6
7000	520	45	4.91	17	18	20	21	22	9625	9630	9635	6606	6614	6621	8	.6
7000	560	45	4.79	9	10	11	12	13	9627	9631	9635	6608	6614	6620	8	.6
8000	360	45	6.37	40	44	47	50	53	10916	10937	10958	7427	7457	7488	11	.7
8000	400	45	6.20	34	37	40	42	45	10925	10940	10956	7440	7463	7485	10	.7
8000	440	45	6.05	29	31	33	36	38	10937	10948	10959	7457	7474	7490	10	.7
8000	480	45	5.90	25	27	28	30	32	10950	10958	10967	7477	7489	7501	10	.7
8000	520	45	5.76	19	20	22	23	24	10960	10966	10971	7491	7500	7508	10	.7
8000	560	45	5.62	11	12	13	14	15	10964	10968	10973	7497	7504	7511	9	.6
6500	360	60	3.99	16	18	21	23	25	7421	7428	7434	3581	3595	3608	7	.8
6500	400	60	3.89	12	14	16	18	19	7423	7428	7432	3585	3594	3604	7	.8
6500	440	60	3.79	9	10	12	13	15	7425	7429	7432	3590	3597	3604	6	.8
6500	480	60	3.70	6	7	8	10	11	7428	7431	7433	3596	3601	3606	6	.7
6500	520	60	3.61	4	4	5	6	7	7432	7433	7435	3602	3606	3610	6	.7
6500	560	60	3.53	-4	-3	-2	-1	-0	7431	7432	7433	3601	3603	3606	6	.7
7000	360	60	4.32	17	19	22	24	26	7988	7995	8001	3848	3862	3876	7	.8
7000	400	60	4.21	13	15	17	18	20	7990	7995	8000	3852	3862	3872	7	.8
7000	440	60	4.10	10	11	13	14	16	7992	7996	8000	3857	3865	3872	7	.8
7000	480	60	4.00	7	8	9	10	12	7996	7998	8001	3864	3870	3875	7	.7
7000	520	60	3.91	4	5	6	6	7	7999	8001	8003	3871	3875	3878	7	.7
7000	560	60	3.81	-4	-3	-2	-1	-1	7998	7999	8001	3869	3872	3875	6	.7
7500	360	60	4.66	18	20	23	25	27	8553	8561	8568	4112	4127	4142	8	.8
7500	400	60	4.54	14	16	18	19	21	8556	8561	8566	4117	4128	4139	8	.8
7500	440	60	4.42	11	12	13	15	16	8559	8563	8567	4124	4132	4140	7	.8
7500	480	60	4.31	8	9	10	11	12	8563	8566	8568	4132	4137	4143	7	.7
7500	520	60	4.21	4	5	6	7	8	8566	8568	8570	4138	4142	4146	7	.7
7500	560	60	4.11	-4	-3	-2	-1	-1	8565	8566	8568	4135	4139	4142	7	.7
8000	360	60	5.01	19	21	24	26	28	9118	9126	9133	4375	4391	4407	8	.8
8000	400	60	4.88	15	17	19	20	22	9121	9127	9132	4381	4392	4404	8	.8
8000	440	60	4.76	11	13	14	16	17	9125	9129	9133	4389	4397	4405	8	.8
8000	480	60	4.64	8	10	11	12	13	9129	9132	9135	4398	4404	4410	8	.8
8000	520	60	4.53	4	5	6	7	8	9132	9134	9136	4403	4407	4411	8	.7
8000	560	60	4.42	-4	-3	-2	-1	-0	9131	9132	9134	4401	4405	4408	7	.7
8500	360	60	5.37	20	22	25	27	29	9682	9690	9698	4636	4653	4669	9	.8
8500	400	60	5.23	16	18	20	21	23	9685	9691	9697	4643	4655	4667	9	.8
8500	440	60	5.10	12	14	15	17	18	9690	9694	9698	4652	4660	4669	9	.8
8500	480	60	4.97	9	11	12	13	14	9695	9698	9701	4662	4669	4675	8	.8
8500	520	60	4.85	4	5	6	7	8	9697	9699	9701	4666	4671	4675	8	.7
8500	560	60	4.73	-3	-2	-2	-1	0	9696	9698	9700	4665	4669	4673	8	.7
9000	360	60	5.75	21	24	26	28	30	10245	10254	10262	4895	4913	4930	10	.8
9000	400	60	5.59	17	19	21	23	24	10249	10255	10261	4903	4916	4929	9	.8
9000	440	60	5.45	13	15	16	18	19	10254	10258	10262	4913	4922	4931	9	.8
9000	480	60	5.31	11	12	13	14	15	10260	10263	10266	4925	4932	4938	9	.8
9000	520	60	5.18	5	6	7	8	8	10262	10264	10266	4930	4934	4939	9	.8
9000	560	60	5.06	-3	-2	-1	-0	0	10261	10263	10265	4928	4932	4936	9	.7
10000	360	60	6.52	24	26	28	31	33	11369	11378	11387	5408	5427	5445	11	.9
10000	400	60	6.35	19	21	23	25	27	11374	11380	11387	5418	5432	5446	11	.8
10000	440	60	6.18	15	17	18	20	21	11380	11384	11389	5431	5441	5450	10	.8
10000	480	60	6.03	13	14	15	16	17	11387	11390	11394	5446	5453	5460	10	.8
10000	520	60	5.88	6	7	8	9	10	11389	11391	11394	5451	5456	5461	10	.8
10000	560	60	5.73	-2	-1	-1	0	1	11388	11390	11392	5448	5453	5457	10	.7
11000	360	60	7.33	26	29	31	33	35	12488	12498	12507	5912	5932	5953	12	.9
11000	400	60	7.13	22	23	25	27	29	12494	12501	12508	5925	5940	5955	12	.9
11000	440	60	6.95	18	19	21	22	24	12502	12507	12512	5941	5952	5962	12	.8
11000	480	60	6.78	14	16	17	18	19	12510	12514	12517	5959	5966	5974	11	.8
11000	520	60	6.60	6	7	8	9	10	12512	12514	12517	5962	5967	5972	11	.8
11000	560	60	6.44	-1	-1	0	1	2	12511	12514	12516	5961	5966	5971	11	.8
12000	360	60	8.17	29	31	34	36	38	13604	13614	13624	6408	6429	6451	14	.9
12000	400	60	7.95	24	26	28	30	31	13612	13619	13626	6424	6440	6455	13	.9
12000	440	60	7.75	20	22	23	24	26	13621	13626	13631	6443	6455	6466	13	.8
12000	480	60	7.55	16	17	18	19	20	13629	13632	13636	6461	6468	6476	13	.8
12000	520	60	7.36	7	8	9	10	11	13631	13633	13636	6465	6471	6476	12	.8
12000	560	60	7.18	-1	0	1	2	3	13631	13634	13636	6466	6472	6477	12	.8

Table 6-36. (Sheet 4)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH M151, M156, AND WTU-1/B WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
900	360	10	2.51	38	42	47	51	56	4559	4627	4697	4469	4538	4610	4	.2
900	400	10	2.43	31	35	38	42	45	4554	4604	4654	4465	4515	4566	4	.2
900	440	10	2.37	25	28	31	34	37	4561	4597	4634	4471	4508	4546	4	.2
900	480	10	2.31	20	23	25	28	30	4574	4600	4627	4484	4511	4539	4	.2
900	520	10	2.27	16	18	20	22	24	4592	4611	4630	4503	4522	4542	4	.2
900	560	10	2.21	9	10	12	13	15	4592	4607	4621	4503	4518	4532	4	.2
1250	360	10	3.33	43	48	52	57	61	6164	6250	6338	6035	6123	6213	6	.2
1250	400	10	3.23	36	40	43	47	50	6165	6228	6292	6037	6101	6166	5	.2
1250	440	10	3.14	30	33	36	39	42	6180	6226	6273	6052	6099	6147	5	.2
1250	480	10	3.07	25	27	30	32	35	6203	6237	6271	6075	6110	6145	5	.2
1250	520	10	3.01	21	23	25	27	28	6231	6256	6281	6105	6130	6155	5	.2
1250	560	10	2.94	12	14	15	17	19	6235	6253	6272	6108	6127	6146	5	.2
1250	360	15	2.43	37	41	45	49	54	4444	4490	4536	4265	4312	4360	4	.3
1250	400	15	2.37	30	33	37	40	43	4441	4474	4508	4262	4296	4331	4	.3
1250	440	15	2.31	24	27	30	33	35	4445	4470	4494	4266	4291	4317	4	.2
1250	480	15	2.25	19	21	24	26	29	4454	4471	4489	4275	4293	4312	4	.2
1250	520	15	2.20	15	17	19	21	23	4465	4478	4491	4287	4300	4313	4	.2
1250	560	15	2.15	7	8	10	12	13	4464	4474	4483	4286	4295	4305	4	.2
1500	360	15	2.84	39	43	48	52	56	5284	5337	5391	5067	5122	5178	5	.3
1500	400	15	2.76	32	36	39	42	46	5283	5321	5360	5066	5105	5146	5	.2
1500	440	15	2.69	26	29	32	35	38	5290	5318	5346	5073	5102	5131	5	.2
1500	480	15	2.63	21	24	26	28	31	5301	5322	5343	5085	5106	5128	4	.2
1500	520	15	2.57	17	19	21	23	25	5316	5331	5346	5100	5115	5131	4	.2
1500	560	15	2.51	9	10	12	13	15	5315	5326	5337	5099	5111	5122	4	.2
1750	360	15	3.26	42	46	50	55	59	6108	6168	6228	5852	5914	5977	6	.3
1750	400	15	3.17	35	38	42	45	49	6110	6153	6196	5854	5899	5944	5	.2
1750	440	15	3.09	29	31	34	37	40	6120	6151	6183	5864	5897	5930	5	.2
1750	480	15	3.02	24	26	28	31	33	6135	6158	6182	5880	5905	5929	5	.2
1750	520	15	2.95	19	21	23	25	26	6152	6169	6186	5898	5916	5933	5	.2
1750	560	15	2.88	10	12	13	15	17	6153	6166	6178	5899	5912	5925	5	.2
1500	360	20	2.28	34	38	42	46	51	4139	4171	4202	3858	3892	3925	4	.3
1500	400	20	2.22	27	31	34	38	41	4137	4160	4183	3856	3880	3904	4	.3
1500	440	20	2.16	22	25	27	30	33	4140	4156	4173	3858	3876	3894	4	.3
1500	480	20	2.11	17	20	22	24	26	4145	4157	4170	3864	3877	3890	4	.3
1500	520	20	2.07	13	15	17	19	21	4153	4161	4170	3872	3881	3891	3	.3
1500	560	20	2.02	5	6	8	10	11	4151	4157	4164	3870	3877	3884	3	.3
1750	360	20	2.59	36	40	44	48	53	4804	4840	4876	4474	4512	4551	4	.3
1750	400	20	2.52	29	33	36	39	43	4803	4828	4855	4472	4500	4528	4	.3
1750	440	20	2.45	24	26	29	32	35	4806	4825	4844	4476	4497	4517	4	.3
1750	480	20	2.40	19	21	23	26	28	4814	4828	4842	4484	4499	4514	4	.3
1750	520	20	2.34	14	16	18	20	22	4822	4832	4842	4493	4504	4515	4	.3
1750	560	20	2.29	6	8	9	11	12	4820	4828	4836	4492	4500	4508	4	.3
2000	360	20	2.91	38	42	46	50	54	5462	5502	5542	5083	5126	5169	5	.3
2000	400	20	2.83	31	34	38	41	45	5462	5491	5520	5082	5113	5145	5	.3
2000	440	20	2.76	25	28	31	34	36	5467	5488	5510	5088	5111	5134	5	.3
2000	480	20	2.69	21	23	25	27	30	5476	5492	5508	5098	5115	5132	5	.3
2000	520	20	2.63	16	18	19	21	23	5486	5497	5508	5108	5120	5132	4	.3
2000	560	20	2.57	7	9	10	12	13	5485	5493	5502	5107	5116	5125	4	.3
2000	360	30	2.15	29	33	37	41	44	3870	3887	3905	3313	3333	3354	4	.5
2000	400	30	2.09	23	26	29	32	36	3869	3881	3894	3312	3326	3341	4	.5
2000	440	30	2.04	18	21	23	26	28	3870	3879	3889	3313	3324	3335	3	.5
2000	480	30	1.99	14	16	18	20	22	3873	3880	3887	3317	3325	3333	3	.4
2000	520	30	1.95	9	11	13	14	16	3877	3881	3886	3321	3326	3332	3	.4
2000	560	30	1.90	1	3	4	5	7	3875	3878	3882	3319	3323	3327	3	.4
2250	360	30	2.36	30	34	38	42	46	4344	4364	4383	3716	3739	3762	4	.5
2250	400	30	2.29	24	27	30	34	37	4343	4357	4371	3715	3731	3748	4	.5
2250	440	30	2.24	19	22	24	27	29	4345	4355	4366	3717	3729	3741	4	.5
2250	480	30	2.18	15	17	19	21	23	4349	4357	4364	3722	3731	3739	4	.5
2250	520	30	2.14	10	12	13	15	17	4352	4358	4363	3726	3732	3738	4	.4
2250	560	30	2.09	2	3	5	6	7	4351	4355	4359	3724	3728	3733	4	.4
2500	360	30	2.57	32	35	39	43	47	4817	4838	4859	4117	4142	4167	4	.5
2500	400	30	2.50	25	29	32	35	38	4816	4831	4847	4116	4134	4153	4	.5
2500	440	30	2.44	20	23	25	28	30	4819	4830	4841	4119	4132	4146	4	.4
2500	480	30	2.38	16	18	20	22	24	4823	4832	4840	4125	4134	4144	4	.4
2500	520	30	2.33	11	12	14	16	17	4827	4833	4838	4129	4136	4142	4	.4
2500	560	30	2.27	2	4	5	7	8	4825	4830	4834	4127	4132	4137	4	.4

Table 6-36. (Sheet 5)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH M151, M156, AND WTU-1/B WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
2750	360	30	2.79	33	37	40	44	48	5287	5310	5334	4516	4543	4570	5	.5
2750	400	30	2.72	27	30	33	36	39	5287	5304	5321	4516	4535	4555	5	.5
2750	440	30	2.65	21	24	26	29	31	5290	5302	5315	4519	4534	4548	4	.4
2750	480	30	2.59	17	19	21	23	25	5296	5305	5314	4526	4536	4547	4	.4
2750	520	30	2.53	11	13	15	16	18	5299	5306	5312	4530	4537	4545	4	.4
2750	560	30	2.47	3	4	6	7	9	5298	5303	5308	4528	4534	4540	4	.4
3000	360	30	3.02	34	38	42	46	49	5756	5780	5806	4912	4941	4970	5	.5
3000	400	30	2.94	28	31	34	37	40	5756	5774	5792	4912	4934	4955	5	.4
3000	440	30	2.87	22	25	27	30	32	5760	5773	5786	4917	4932	4948	5	.4
3000	480	30	2.80	18	20	22	24	26	5767	5776	5786	4925	4936	4947	5	.4
3000	520	30	2.73	12	14	15	17	19	5770	5777	5784	4929	4937	4945	5	.4
3000	560	30	2.67	4	5	7	8	9	5769	5775	5780	4928	4934	4941	5	.4
3500	360	30	3.50	37	40	44	48	52	6686	6714	6743	5697	5730	5763	6	.5
3500	400	30	3.40	30	33	36	39	43	6688	6709	6729	5699	5723	5747	6	.5
3500	440	30	3.32	25	27	30	32	35	6694	6709	6724	5706	5723	5741	6	.4
3500	480	30	3.24	20	22	24	26	28	6703	6714	6725	5717	5729	5742	5	.4
3500	520	30	3.16	13	15	17	18	20	6706	6714	6722	5721	5730	5738	5	.4
3500	560	30	3.08	5	7	8	10	11	6707	6713	6719	5721	5728	5736	5	.4
4000	360	30	4.00	39	43	47	51	55	7607	7638	7670	6470	6507	6545	7	.5
4000	400	30	3.89	33	36	39	42	45	7611	7634	7657	6475	6502	6529	7	.5
4000	440	30	3.79	27	29	32	35	37	7619	7636	7652	6484	6504	6524	6	.4
4000	480	30	3.70	22	25	27	29	31	7631	7643	7655	6499	6513	6527	6	.4
4000	520	30	3.61	15	17	18	20	22	7636	7644	7653	6504	6514	6524	6	.4
4000	560	30	3.52	7	8	10	11	13	7637	7644	7651	6505	6514	6522	6	.4
4500	360	30	4.53	42	46	50	54	58	8517	8552	8587	7232	7272	7314	8	.5
4500	400	30	4.40	35	38	42	45	48	8524	8549	8574	7239	7269	7299	7	.5
4500	440	30	4.29	29	32	35	37	40	8535	8553	8571	7252	7274	7295	7	.4
4500	480	30	4.19	25	27	29	31	33	8550	8564	8577	7271	7286	7301	7	.4
4500	520	30	4.08	17	19	21	22	24	8557	8566	8575	7278	7289	7300	7	.4
4500	560	30	3.98	8	10	11	13	14	8558	8566	8574	7280	7289	7299	7	.4
5000	360	30	5.08	45	49	53	57	61	9417	9455	9493	7980	8025	8069	9	.5
5000	400	30	4.94	38	41	44	48	51	9427	9454	9481	7992	8024	8056	8	.5
5000	440	30	4.81	32	35	37	40	42	9441	9461	9481	8009	8032	8055	8	.5
5000	480	30	4.70	27	29	32	34	36	9460	9474	9488	8031	8047	8064	8	.4
5000	520	30	4.58	19	21	23	24	26	9468	9478	9488	8040	8052	8064	8	.4
5000	560	30	4.47	10	12	13	15	16	9471	9480	9489	8044	8054	8065	8	.4
4000	360	45	2.88	24	27	30	33	37	5545	5557	5568	3840	3857	3874	5	.6
4000	400	45	2.81	19	21	24	26	29	5546	5554	5562	3841	3853	3865	5	.6
4000	440	45	2.74	14	16	18	21	23	5548	5554	5560	3844	3853	3862	5	.6
4000	480	45	2.67	11	13	14	16	18	5552	5556	5560	3850	3856	3862	5	.6
4000	520	45	2.61	4	6	7	9	10	5552	5555	5558	3850	3855	3859	4	.6
4000	560	45	2.55	-3	-2	-1	0	2	5550	5553	5555	3848	3851	3855	4	.6
4500	360	45	3.22	25	29	32	35	38	6230	6242	6255	4308	4326	4345	5	.6
4500	400	45	3.13	20	23	25	28	30	6231	6240	6249	4309	4323	4336	5	.6
4500	440	45	3.05	16	18	20	22	24	6233	6240	6247	4313	4323	4333	5	.6
4500	480	45	2.98	12	14	15	17	19	6238	6243	6248	4320	4327	4334	5	.6
4500	520	45	2.90	5	7	8	9	11	6239	6242	6245	4321	4326	4330	5	.6
4500	560	45	2.84	-3	-2	-0	1	2	6236	6239	6242	4318	4322	4326	5	.6
5000	360	45	3.56	27	30	33	36	39	6912	6926	6940	4772	4792	4813	6	.6
5000	400	45	3.46	21	24	27	29	32	6913	6924	6934	4775	4789	4804	6	.6
5000	440	45	3.37	17	19	21	23	25	6917	6924	6932	4780	4790	4801	6	.6
5000	480	45	3.29	13	15	17	18	20	6923	6928	6933	4788	4795	4803	6	.6
5000	520	45	3.21	6	7	9	10	12	6923	6927	6930	4788	4794	4799	5	.6
5000	560	45	3.13	-2	-1	0	2	3	6921	6924	6927	4785	4790	4795	5	.6
5500	360	45	3.92	28	32	35	38	41	7592	7607	7622	5233	5255	5277	7	.6
5500	400	45	3.81	23	25	28	30	33	7594	7605	7616	5237	5252	5268	6	.6
5500	440	45	3.71	18	20	22	24	26	7599	7606	7614	5243	5254	5266	6	.6
5500	480	45	3.62	14	16	18	19	21	7605	7611	7616	5252	5260	5268	6	.6
5500	520	45	3.53	6	8	9	11	12	7605	7609	7613	5252	5258	5264	6	.6
5500	560	45	3.45	-2	-0	1	2	3	7603	7607	7611	5250	5255	5260	6	.6
6000	360	45	4.29	30	33	36	39	43	8269	8286	8302	5691	5714	5738	7	.6
6000	400	45	4.17	24	27	29	32	34	8273	8284	8296	5695	5712	5729	7	.6
6000	440	45	4.06	19	21	24	26	28	8278	8287	8295	5703	5715	5728	7	.6
6000	480	45	3.96	16	17	19	20	22	8285	8291	8297	5714	5722	5731	7	.6
6000	520	45	3.86	7	8	10	11	12	8285	8289	8294	5713	5720	5726	7	.6
6000	560	45	3.77	-1	0	2	3	4	8284	8288	8292	5712	5717	5723	6	.6

Table 6-36. (Sheet 6)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH M151, M156, AND WTU-1/B WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS: SIGHT SETTING - MILS (NEG SETTING INDICATES ELEV) 12.0	14.0	16.0	18.0	20.0	SLANT RANGE - FEET 12.0	16.0	20.0	HORIZONTAL RANGE - FT 12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
7000	360	45	5.06	33	36	40	43	46	9617	9635	9654	6595	6621	6648	9	.6
7000	400	45	4.92	27	30	32	35	37	9622	9636	9649	6602	6622	6641	8	.6
7000	440	45	4.79	22	24	26	29	31	9630	9640	9649	6614	6628	6641	8	.6
7000	480	45	4.67	17	19	20	22	24	9638	9644	9651	6625	6634	6644	8	.6
7000	520	45	4.56	8	9	11	12	13	9638	9643	9648	6626	6633	6640	8	.6
7000	560	45	4.44	0	2	3	4	5	9638	9643	9648	6626	6632	6639	7	.6
8000	360	45	5.88	37	40	43	46	49	10954	10974	10995	7483	7512	7542	10	.7
8000	400	45	5.72	31	33	36	38	41	10962	10976	10991	7494	7516	7537	10	.6
8000	440	45	5.57	25	28	30	32	34	10973	10983	10994	7511	7526	7541	9	.6
8000	480	45	5.43	19	20	22	23	25	10980	10987	10994	7521	7531	7541	9	.6
8000	520	45	5.29	10	11	13	14	15	10983	10989	10995	7525	7533	7542	9	.6
8000	560	45	5.16	2	3	4	6	7	10984	10989	10995	7527	7534	7542	9	.6
6500	360	60	3.78	15	17	19	21	24	7427	7433	7439	3594	3606	3619	6	.8
6500	400	60	3.68	11	12	14	16	18	7429	7433	7437	3597	3606	3614	6	.7
6500	440	60	3.58	7	9	10	12	13	7431	7434	7437	3601	3608	3614	6	.7
6500	480	60	3.49	4	5	6	7	9	7434	7436	7438	3607	3611	3616	6	.7
7000	360	60	4.07	16	18	20	22	24	7995	8001	8008	3862	3875	3889	7	.8
7000	400	60	3.96	11	13	15	17	19	7997	8001	8006	3866	3875	3885	7	.7
7000	440	60	3.86	8	9	11	12	14	7999	8002	8006	3871	3878	3885	7	.7
7000	480	60	3.76	4	5	6	7	9	8001	8004	8006	3876	3881	3886	6	.7
7000	520	60	3.67	-4	-3	-2	-1	-0	8000	8002	8004	3873	3877	3880	6	.7
7000	560	60	3.58	-11	-10	-9	-8	-7	7998	8000	8001	3869	3872	3876	6	.7
7500	360	60	4.38	16	19	21	23	25	8562	8568	8575	4129	4144	4158	7	.8
7500	400	60	4.26	12	14	16	18	19	8564	8569	8573	4134	4144	4154	7	.7
7500	440	60	4.15	9	10	12	13	14	8567	8570	8574	4140	4147	4155	7	.7
7500	480	60	4.04	4	5	6	7	9	8569	8571	8574	4144	4149	4154	7	.7
7500	520	60	3.94	-4	-3	-2	-1	-0	8568	8569	8571	4142	4146	4149	7	.7
7500	560	60	3.84	-11	-10	-9	-8	-7	8565	8567	8569	4137	4141	4144	6	.7
8000	360	60	4.69	17	19	22	24	26	9128	9135	9142	4395	4410	4425	8	.8
8000	400	60	4.56	13	15	17	18	20	9130	9135	9141	4400	4411	4422	8	.7
8000	440	60	4.44	9	11	12	14	15	9134	9138	9141	4408	4415	4423	7	.7
8000	480	60	4.33	4	5	6	7	9	9135	9138	9140	4411	4416	4421	7	.7
8000	520	60	4.22	-4	-3	-2	-1	0	9135	9137	9139	4409	4413	4417	7	.7
8000	560	60	4.11	-11	-10	-9	-8	-7	9132	9134	9136	4404	4408	4412	7	.7
8500	360	60	5.00	18	20	23	25	27	9694	9701	9709	4660	4675	4691	8	.8
8500	400	60	4.87	14	16	17	19	21	9696	9702	9707	4666	4677	4688	8	.7
8500	440	60	4.74	10	12	13	15	16	9701	9704	9708	4675	4682	4690	8	.7
8500	480	60	4.62	4	5	7	8	9	9702	9704	9707	4677	4682	4688	8	.7
8500	520	60	4.50	-4	-3	-2	-1	0	9701	9703	9705	4675	4679	4684	8	.7
8500	560	60	4.39	-11	-10	-9	-8	-7	9699	9701	9702	4670	4674	4679	7	.7
9000	360	60	5.33	19	21	24	26	28	10258	10266	10274	4923	4939	4956	9	.8
9000	400	60	5.18	15	16	18	20	22	10262	10267	10273	4930	4941	4953	9	.7
9000	440	60	5.05	11	13	14	16	17	10267	10271	10274	4940	4948	4956	9	.7
9000	480	60	4.92	5	6	7	8	9	10268	10271	10273	4942	4948	4954	8	.7
9000	520	60	4.79	-4	-3	-2	-0	1	10266	10269	10271	4940	4944	4949	8	.7
9000	560	60	4.67	-11	-10	-9	-8	-7	10264	10266	10269	4935	4940	4944	8	.7
10000	360	60	6.00	21	23	25	28	30	11386	11394	11403	5444	5462	5480	10	.8
10000	400	60	5.83	16	18	20	22	24	11390	11396	11402	5453	5466	5478	10	.8
10000	440	60	5.68	13	14	16	17	19	11396	11401	11405	5466	5475	5484	10	.7
10000	480	60	5.53	5	6	8	9	10	11397	11400	11403	5468	5474	5480	9	.7
10000	520	60	5.39	-3	-2	-1	-0	1	11396	11399	11401	5465	5470	5476	9	.7
10000	560	60	5.25	-10	-9	-8	-7	-6	11395	11397	11400	5463	5468	5473	9	.7
11000	360	60	6.70	23	25	27	30	32	12511	12520	12529	5959	5978	5998	11	.8
11000	400	60	6.51	18	20	22	24	25	12516	12523	12529	5971	5985	5998	11	.8
11000	440	60	6.34	14	16	17	19	20	12523	12528	12532	5986	5995	6005	11	.8
11000	480	60	6.17	5	6	7	9	10	12523	12526	12529	5985	5992	5999	10	.7
11000	520	60	6.01	-3	-2	-1	0	1	12522	12525	12528	5984	5990	5996	10	.7
11000	560	60	5.85	-9	-8	-7	-6	-5	12523	12526	12528	5986	5991	5997	10	.7
12000	360	60	7.42	25	27	29	32	34	13632	13642	13651	6468	6488	6509	13	.8
12000	400	60	7.21	20	22	24	25	27	13639	13646	13653	6483	6497	6511	12	.8
12000	440	60	7.02	15	16	18	19	20	13646	13650	13655	6496	6506	6516	12	.8
12000	480	60	6.83	5	7	8	9	10	13646	13650	13653	6498	6505	6512	12	.7
12000	520	60	6.65	-3	-2	-0	1	2	13646	13649	13653	6498	6504	6511	11	.7
12000	560	60	6.48	-8	-7	-6	-5	-4	13649	13652	13655	6504	6510	6516	11	.7

Table 6-36. (Sheet 7)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH M151, M156, AND WTU-1/B WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS												
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
900	360	10	2.43	37	41	45	50	54	4590	4655	4722	4501	4567	4636	4	.2
900	400	10	2.36	29	33	37	40	44	4586	4632	4680	4496	4544	4593	4	.2
900	440	10	2.30	23	26	29	32	35	4592	4625	4659	4502	4537	4571	4	.2
900	480	10	2.24	19	21	23	25	28	4605	4629	4653	4516	4540	4565	4	.2
900	520	10	2.19	9	11	13	15	17	4600	4617	4634	4511	4529	4546	4	.2
900	560	10	2.13	1	3	5	6	8	4596	4611	4627	4507	4522	4538	4	.2
1250	360	10	3.20	41	46	50	55	59	6218	6302	6387	6092	6177	6264	5	.2
1250	400	10	3.10	34	38	41	45	48	6220	6279	6340	6093	6154	6216	5	.2
1250	440	10	3.02	28	31	34	37	39	6234	6277	6320	6107	6151	6196	5	.2
1250	480	10	2.95	22	25	27	29	32	6256	6286	6317	6129	6160	6192	5	.2
1250	520	10	2.87	13	15	17	19	20	6253	6275	6298	6127	6149	6172	5	.2
1250	560	10	2.81	5	6	8	10	12	6252	6273	6294	6126	6147	6168	5	.2
1250	360	15	2.36	35	39	44	48	52	4465	4508	4552	4286	4331	4377	4	.2
1250	400	15	2.29	28	32	35	39	42	4462	4493	4524	4283	4315	4348	4	.2
1250	440	15	2.23	22	25	28	31	34	4465	4488	4510	4287	4310	4333	4	.2
1250	480	15	2.18	17	19	22	24	26	4474	4489	4505	4296	4312	4328	4	.2
1250	520	15	2.13	8	10	11	13	15	4469	4480	4492	4291	4303	4314	4	.2
1250	560	15	2.08	-0	2	3	5	7	4466	4476	4487	4287	4298	4309	4	.2
1500	360	15	2.74	37	42	46	50	55	5312	5363	5414	5096	5149	5202	5	.2
1500	400	15	2.66	30	34	37	41	44	5311	5347	5383	5094	5132	5170	4	.2
1500	440	15	2.59	24	27	30	33	36	5317	5343	5369	5101	5128	5155	4	.2
1500	480	15	2.53	19	21	23	26	28	5327	5345	5363	5111	5130	5149	4	.2
1500	520	15	2.47	9	11	13	15	17	5323	5336	5350	5107	5121	5135	4	.2
1500	560	15	2.41	1	3	5	7	8	5321	5333	5346	5105	5118	5131	4	.2
1750	360	15	3.14	40	44	48	53	57	6146	6203	6261	5891	5951	6011	5	.2
1750	400	15	3.05	32	36	39	43	47	6146	6187	6228	5892	5934	5977	5	.2
1750	440	15	2.97	26	29	32	35	38	6156	6185	6215	5902	5932	5963	5	.2
1750	480	15	2.89	21	23	25	27	29	6168	6188	6208	5914	5935	5957	5	.2
1750	520	15	2.82	11	13	15	16	18	6165	6180	6196	5912	5927	5943	5	.2
1750	560	15	2.75	3	5	6	8	10	6165	6179	6193	5911	5926	5941	5	.2
1500	360	20	2.22	33	37	41	45	50	4153	4182	4213	3872	3904	3936	4	.3
1500	400	20	2.15	26	29	33	36	39	4150	4172	4193	3870	3893	3916	4	.3
1500	440	20	2.10	20	23	26	28	31	4153	4168	4183	3872	3889	3905	4	.3
1500	480	20	2.05	15	17	19	22	24	4157	4168	4179	3877	3889	3900	3	.3
1500	520	20	2.00	6	7	9	11	13	4154	4161	4169	3873	3882	3890	3	.3
1500	560	20	1.95	-2	-0	1	3	5	4151	4158	4165	3870	3878	3886	3	.3
1750	360	20	2.50	34	39	43	47	51	4821	4855	4890	4493	4529	4566	4	.3
1750	400	20	2.43	28	31	34	38	41	4820	4844	4868	4491	4517	4543	4	.3
1750	440	20	2.37	22	25	27	30	33	4823	4841	4858	4495	4513	4532	4	.3
1750	480	20	2.31	16	18	21	23	25	4828	4841	4853	4500	4513	4526	4	.3
1750	520	20	2.26	7	8	10	12	14	4825	4834	4843	4496	4506	4516	4	.3
1750	560	20	2.20	-1	1	2	4	6	4823	4831	4839	4494	4503	4512	4	.3
2000	360	20	2.80	36	40	45	49	53	5484	5522	5561	5106	5147	5189	5	.3
2000	400	20	2.72	29	33	36	39	43	5483	5510	5538	5105	5135	5164	5	.3
2000	440	20	2.65	23	26	29	32	34	5488	5508	5528	5111	5132	5153	4	.3
2000	480	20	2.59	17	19	22	24	26	5494	5508	5521	5117	5132	5146	4	.3
2000	520	20	2.52	8	10	11	13	15	5491	5502	5512	5114	5125	5136	4	.3
2000	560	20	2.46	0	2	4	5	7	5490	5499	5509	5112	5122	5133	4	.3
2000	360	30	2.09	28	32	36	40	44	3877	3894	3910	3322	3341	3360	4	.5
2000	400	30	2.03	22	25	28	31	34	3876	3888	3899	3320	3334	3347	3	.5
2000	440	30	1.98	17	19	22	24	27	3877	3886	3894	3322	3331	3341	3	.4
2000	480	30	1.93	11	13	15	17	19	3879	3885	3891	3323	3330	3337	3	.4
2000	520	30	1.89	2	4	5	7	9	3876	3881	3885	3320	3326	3331	3	.4
2000	560	30	1.84	-6	-4	-2	-1	1	3874	3878	3882	3318	3323	3327	3	.4
2250	360	30	2.28	29	33	37	41	45	4353	4371	4390	3726	3748	3769	4	.5
2250	400	30	2.22	23	26	29	32	35	4352	4365	4378	3725	3740	3756	4	.4
2250	440	30	2.17	18	20	23	25	28	4354	4363	4373	3727	3738	3749	4	.4
2250	480	30	2.11	12	14	16	18	20	4355	4362	4368	3729	3737	3744	4	.4
2250	520	30	2.06	3	4	6	8	9	4353	4358	4363	3726	3732	3738	3	.4
2250	560	30	2.02	-5	-3	-2	-0	1	4351	4355	4360	3724	3729	3734	3	.4
2500	360	30	2.49	30	34	38	42	46	4827	4847	4868	4129	4153	4177	4	.4
2500	400	30	2.42	24	27	30	33	36	4826	4841	4855	4128	4145	4162	4	.4
2500	440	30	2.36	18	21	24	26	29	4829	4839	4850	4131	4143	4155	4	.4
2500	480	30	2.30	12	14	16	18	20	4830	4837	4844	4133	4141	4149	4	.4
2500	520	30	2.24	3	5	7	8	10	4828	4834	4839	4130	4137	4143	4	.4
2500	560	30	2.19	-4	-3	-1	0	2	4826	4831	4836	4128	4134	4140	4	.4

Table 6-36. (Sheet 8)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH M151, M156, AND WTU-1/B WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
2750	360	30	2.69	31	35	39	43	47	5300	5322	5344	4530	4556	4582	5	.4
2750	400	30	2.62	25	28	31	34	37	5299	5315	5330	4530	4548	4566	4	.4
2750	440	30	2.55	19	22	25	27	30	5302	5314	5325	4534	4547	4560	4	.4
2750	480	30	2.49	13	15	17	19	21	5304	5311	5319	4535	4544	4553	4	.4
2750	520	30	2.43	4	6	7	9	11	5302	5308	5314	4533	4540	4547	4	.4
2750	560	30	2.37	-4	-2	-1	1	3	5299	5305	5311	4530	4537	4543	4	.4
3000	360	30	2.91	32	36	40	44	48	5770	5794	5818	4929	4957	4985	5	.4
3000	400	30	2.82	26	29	32	35	38	5770	5787	5804	4929	4949	4969	5	.4
3000	440	30	2.75	20	23	26	28	31	5774	5786	5799	4934	4948	4962	5	.4
3000	480	30	2.68	13	15	17	19	21	5775	5784	5792	4935	4945	4954	5	.4
3000	520	30	2.62	4	6	8	10	11	5774	5781	5787	4934	4941	4949	4	.4
3000	560	30	2.55	-3	-2	-0	2	3	5772	5778	5784	4931	4938	4945	4	.4
3500	360	30	3.34	35	39	43	46	50	6706	6733	6760	5720	5752	5784	6	.4
3500	400	30	3.25	28	31	34	37	40	6707	6726	6746	5722	5744	5766	5	.4
3500	440	30	3.17	22	25	28	30	33	6713	6727	6741	5729	5745	5761	5	.4
3500	480	30	3.08	15	17	19	21	23	6715	6724	6733	5730	5741	5752	5	.4
3500	520	30	3.01	6	8	9	11	13	6714	6722	6729	5730	5738	5747	5	.4
3500	560	30	2.93	-2	-1	1	3	4	6712	6719	6726	5727	5735	5744	5	.4
4000	360	30	3.80	37	41	45	49	53	7634	7664	7694	6502	6537	6573	6	.4
4000	400	30	3.69	30	33	36	39	43	7636	7658	7679	6505	6530	6555	6	.4
4000	440	30	3.60	25	27	30	32	35	7645	7660	7676	6515	6533	6551	6	.4
4000	480	30	3.50	16	18	20	22	24	7647	7658	7668	6518	6530	6542	6	.4
4000	520	30	3.42	7	9	11	13	14	7647	7656	7665	6518	6528	6538	6	.4
4000	560	30	3.33	-1	1	2	4	6	7646	7654	7662	6516	6526	6535	6	.4
4500	360	30	4.28	40	43	47	51	55	8553	8586	8619	7273	7312	7351	7	.4
4500	400	30	4.16	32	35	39	42	45	8558	8581	8605	7279	7307	7334	7	.4
4500	440	30	4.05	27	29	32	34	37	8570	8586	8603	7293	7312	7332	7	.4
4500	480	30	3.94	18	20	22	24	26	8573	8584	8596	7297	7310	7324	7	.4
4500	520	30	3.84	9	10	12	14	16	8573	8583	8593	7297	7309	7320	6	.4
4500	560	30	3.75	1	2	4	6	8	8574	8583	8592	7298	7309	7320	6	.4
5000	360	30	4.77	42	46	50	54	58	9463	9499	9535	8034	8076	8119	8	.4
5000	400	30	4.64	35	38	41	44	47	9471	9496	9521	8043	8073	8103	8	.4
5000	440	30	4.51	29	31	34	36	39	9486	9503	9521	8061	8082	8103	8	.4
5000	480	30	4.39	20	22	24	26	28	9489	9502	9514	8065	8080	8094	7	.4
5000	520	30	4.28	10	12	14	16	18	9492	9503	9513	8068	8081	8094	7	.4
5000	560	30	4.18	3	4	6	8	9	9495	9505	9515	8072	8084	8096	7	.4
4000	360	45	2.77	23	26	29	32	35	5552	5563	5574	3850	3866	3882	5	.6
4000	400	45	2.70	17	20	22	25	27	5552	5560	5568	3851	3862	3873	5	.6
4000	440	45	2.63	13	15	17	19	21	5555	5560	5566	3854	3862	3870	4	.6
4000	480	45	2.56	6	7	9	11	12	5554	5558	5562	3853	3859	3864	4	.6
4000	520	45	2.50	-3	-1	0	2	3	5552	5555	5558	3850	3855	3859	4	.6
4000	560	45	2.44	-10	-9	-8	-6	-5	5550	5552	5555	3847	3851	3855	4	.5
4500	360	45	3.08	24	27	30	34	37	6238	6250	6262	4320	4337	4355	5	.6
4500	400	45	2.99	18	21	23	26	29	6239	6247	6256	4321	4333	4346	5	.6
4500	440	45	2.92	14	16	18	20	22	6242	6248	6254	4326	4335	4343	5	.6
4500	480	45	2.84	7	8	10	12	13	6242	6246	6250	4325	4331	4337	5	.6
4500	520	45	2.77	-2	-1	1	2	4	6239	6243	6246	4321	4327	4332	5	.5
4500	560	45	2.71	-10	-8	-7	-5	-4	6237	6240	6243	4318	4323	4328	5	.5
5000	360	45	3.39	25	28	32	35	38	6922	6935	6949	4787	4806	4825	6	.6
5000	400	45	3.30	19	22	25	27	30	6924	6933	6942	4789	4802	4816	6	.6
5000	440	45	3.21	15	17	19	21	23	6928	6934	6941	4795	4804	4814	5	.6
5000	480	45	3.13	7	9	10	12	13	6926	6931	6935	4793	4800	4806	5	.6
5000	520	45	3.05	-2	-0	1	3	4	6924	6928	6932	4790	4796	4802	5	.5
5000	560	45	2.98	-9	-7	-6	-5	-3	6923	6926	6930	4788	4793	4798	5	.5
5500	360	45	3.72	26	30	33	36	39	7605	7619	7633	5252	5272	5293	6	.6
5500	400	45	3.61	21	23	26	28	31	7607	7617	7627	5254	5269	5283	6	.6
5500	440	45	3.52	16	18	20	22	24	7611	7618	7625	5261	5271	5281	6	.6
5500	480	45	3.43	7	9	10	12	14	7610	7614	7619	5259	5266	5273	6	.6
5500	520	45	3.34	-1	0	2	3	5	7608	7612	7617	5256	5263	5269	6	.5
5500	560	45	3.26	-8	-7	-5	-4	-2	7607	7611	7615	5255	5261	5267	6	.5
6000	360	45	4.05	28	31	34	37	41	8285	8300	8316	5713	5735	5758	7	.6
6000	400	45	3.94	22	24	27	29	32	8288	8298	8309	5717	5733	5748	7	.6
6000	440	45	3.83	17	19	21	23	25	8293	8301	8308	5725	5736	5747	6	.6
6000	480	45	3.73	7	9	11	12	14	8291	8296	8301	5722	5729	5737	6	.6
6000	520	45	3.64	-1	1	2	4	5	8290	8294	8299	5720	5727	5734	6	.5
6000	560	45	3.55	-7	-6	-4	-3	-2	8290	8294	8299	5720	5727	5733	6	.5

Table 6-36. (Sheet 9)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH M151, M156, AND WTU-1/B WARHEADS
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTING 2 MILS
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS: SIGHT SETTING - MILS (NEG SETTING INDICATES ELEV) 12.0	14.0	16.0	18.0	20.0	SLANT RANGE - FEET 12.0	16.0	20.0	HORIZONTAL RANGE - FT 12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
7000	360	45	4.75	30	34	37	40	43	9640	9657	9674	6627	6652	6677	8	.6
7000	400	45	4.61	24	27	29	32	35	9644	9656	9669	6634	6652	6669	8	.6
7000	440	45	4.49	18	20	22	24	26	9649	9657	9666	6641	6653	6665	8	.6
7000	480	45	4.37	8	10	12	13	15	9648	9655	9661	6640	6649	6658	7	.6
7000	520	45	4.25	-0	1	3	5	6	9648	9653	9659	6639	6647	6656	7	.5
7000	560	45	4.15	-5	-4	-2	-1	0	9651	9656	9661	6644	6652	6659	7	.5
8000	360	45	5.47	33	37	40	43	46	10986	11005	11024	7529	7556	7584	9	.6
8000	400	45	5.32	27	30	32	35	37	10993	11006	11020	7540	7559	7578	9	.6
8000	440	45	5.17	19	21	23	25	27	10997	11006	11014	7545	7558	7571	9	.6
8000	480	45	5.03	10	11	13	15	17	10999	11006	11013	7548	7558	7569	8	.6
8000	520	45	4.90	1	2	4	6	7	10998	11005	11011	7548	7557	7567	8	.5
8000	560	45	4.78	-3	-2	-0	1	3	11006	11012	11018	7559	7568	7577	8	.5
6500	360	60	3.59	13	16	18	20	22	7433	7438	7444	3604	3616	3628	6	.7
6500	400	60	3.49	9	11	13	14	16	7434	7438	7442	3607	3615	3623	6	.7
6500	440	60	3.40	5	7	8	9	11	7436	7438	7441	3611	3616	3622	6	.7
7000	360	60	3.86	14	16	18	21	23	8001	8007	8013	3875	3887	3900	7	.7
7000	400	60	3.75	10	11	13	15	17	8003	8007	8011	3878	3887	3896	6	.7
7000	440	60	3.65	5	6	8	9	11	8004	8007	8010	3881	3887	3893	6	.7
7000	480	60	3.55	-4	-3	-1	-0	1	8002	8004	8006	3877	3882	3886	6	.7
7000	520	60	3.46	-12	-10	-9	-8	-7	8000	8002	8004	3872	3877	3881	6	.6
7000	560	60	3.38	-16	-15	-14	-13	-12	7999	8001	8003	3872	3876	3879	6	.6
7500	360	60	4.13	15	17	19	21	24	8569	8575	8581	4144	4157	4170	7	.7
7500	400	60	4.01	10	12	14	16	18	8571	8575	8580	4148	4157	4167	7	.7
7500	440	60	3.91	5	6	8	9	10	8572	8575	8578	4150	4156	4163	7	.7
7500	480	60	3.80	-4	-3	-1	-0	1	8570	8573	8575	4147	4152	4157	6	.7
7500	520	60	3.70	-12	-11	-9	-8	-7	8568	8570	8572	4142	4146	4150	6	.6
7500	560	60	3.61	-16	-15	-13	-12	-11	8568	8570	8572	4143	4147	4151	6	.6
8000	360	60	4.41	15	18	20	22	24	9136	9143	9150	4412	4426	4440	7	.7
8000	400	60	4.28	11	13	15	16	18	9139	9143	9148	4417	4427	4437	7	.7
8000	440	60	4.17	5	6	7	9	10	9139	9142	9145	4418	4425	4431	7	.7
8000	480	60	4.06	-4	-3	-1	-0	1	9138	9140	9143	4416	4421	4426	7	.7
8000	520	60	3.95	-12	-11	-10	-8	-7	9135	9137	9139	4410	4415	4419	7	.6
8000	560	60	3.85	-15	-14	-13	-12	-11	9136	9138	9141	4413	4417	4422	7	.6
8500	360	60	4.69	16	18	21	23	25	9703	9710	9717	4680	4694	4708	8	.7
8500	400	60	4.55	12	14	15	17	19	9706	9711	9716	4686	4696	4706	8	.7
8500	440	60	4.43	5	6	8	9	10	9706	9709	9713	4686	4693	4700	7	.7
8500	480	60	4.31	-4	-3	-1	-0	1	9705	9707	9710	4683	4688	4694	7	.7
8500	520	60	4.20	-12	-10	-9	-8	-7	9702	9705	9707	4678	4683	4688	7	.6
8500	560	60	4.09	-14	-13	-12	-11	-10	9704	9707	9709	4682	4687	4692	7	.6
9000	360	60	4.97	17	19	21	23	26	10269	10277	10284	4946	4961	4976	8	.7
9000	400	60	4.83	12	14	16	18	20	10273	10278	10283	4953	4963	4974	8	.7
9000	440	60	4.70	5	7	8	9	11	10273	10276	10280	4953	4960	4967	8	.7
9000	480	60	4.57	-4	-3	-2	-0	1	10271	10274	10277	4949	4955	4961	8	.7
9000	520	60	4.45	-11	-10	-9	-8	-7	10269	10272	10274	4945	4951	4956	8	.6
9000	560	60	4.34	-14	-13	-12	-11	-10	10272	10274	10277	4951	4956	4961	7	.6
10000	360	60	5.56	18	20	23	25	27	11400	11408	11416	5474	5490	5506	9	.7
10000	400	60	5.40	14	15	17	19	21	11405	11410	11415	5484	5495	5506	9	.7
10000	440	60	5.24	4	6	7	9	10	11403	11407	11411	5481	5488	5496	9	.7
10000	480	60	5.10	-5	-3	-2	-1	1	11402	11405	11408	5478	5484	5491	9	.7
10000	520	60	4.96	-11	-10	-8	-7	-6	11402	11405	11408	5477	5483	5489	8	.6
10000	560	60	4.83	-13	-12	-11	-10	-8	11406	11409	11411	5486	5492	5497	8	.6
11000	360	60	6.16	19	22	24	26	28	12529	12537	12545	5998	6015	6032	10	.7
11000	400	60	5.98	14	16	18	19	21	12534	12539	12545	6008	6019	6031	10	.7
11000	440	60	5.80	4	5	7	8	9	12532	12536	12540	6004	6012	6020	10	.7
11000	480	60	5.64	-5	-4	-2	-1	0	12531	12534	12538	6001	6009	6016	10	.7
11000	520	60	5.48	-10	-9	-7	-6	-5	12533	12536	12540	6007	6013	6020	9	.7
11000	560	60	5.34	-12	-11	-10	-8	-7	12538	12541	12544	6018	6024	6030	9	.6
12000	360	60	6.77	21	23	25	28	30	13656	13664	13673	6517	6535	6553	11	.7
12000	400	60	6.57	14	15	17	19	20	13659	13664	13670	6524	6536	6547	11	.7
12000	440	60	6.37	4	5	7	8	9	13659	13663	13667	6524	6533	6542	11	.7
12000	480	60	6.19	-5	-4	-2	-1	0	13658	13662	13666	6522	6530	6538	10	.7
12000	520	60	6.02	-9	-7	-6	-5	-4	13663	13667	13670	6533	6541	6548	10	.7
12000	560	60	5.86	-11	-10	-8	-7	-6	13669	13673	13676	6546	6553	6560	10	.6

Table 6-37. (Sheet 1)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH WDU-4A/A WARHEAD
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 3 MILS
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
800	360	10	3.25	44	49	54	58	63	3939	3980	4022	3857	3899	3941	5	.3
800	400	10	3.10	36	40	44	47	51	3958	3988	4019	3876	3907	3939	5	.3
800	440	10	2.96	29	32	36	39	42	3982	4005	4028	3901	3924	3948	5	.3
800	480	10	2.84	24	26	29	32	34	4009	4026	4044	3929	3946	3964	5	.2
800	520	10	2.74	19	21	23	25	28	4037	4050	4063	3957	3970	3983	5	.2
800	560	10	2.64	15	17	19	20	22	4066	4076	4085	3987	3997	4006	4	.2
1000	360	10	4.52	57	62	67	72	77	4632	4669	4707	4522	4561	4600	8	.4
1000	400	10	4.35	48	52	56	60	64	4670	4698	4727	4562	4591	4620	7	.3
1000	440	10	4.20	41	44	47	50	54	4713	4735	4756	4606	4628	4650	7	.3
1000	480	10	4.07	34	37	40	42	45	4759	4775	4791	4653	4669	4686	7	.3
1000	520	10	3.94	29	31	33	36	38	4805	4817	4829	4700	4712	4725	7	.3
1000	560	10	3.83	24	26	28	30	32	4852	4861	4870	4748	4757	4767	6	.3
1200	360	10	5.80	73	78	83	88	93	5179	5212	5245	5038	5072	5106	10	.4
1200	400	10	5.62	63	67	72	76	80	5234	5258	5283	5094	5120	5145	9	.4
1200	440	10	5.48	55	59	62	65	69	5293	5311	5330	5155	5174	5193	9	.4
1200	480	10	5.34	49	51	54	57	60	5353	5368	5382	5217	5232	5246	9	.4
1200	520	10	5.22	43	45	47	49	52	5415	5426	5436	5280	5291	5302	9	.4
1200	560	10	5.10	38	39	41	43	45	5478	5485	5493	5345	5353	5361	9	.3
1400	360	10	7.01	91	96	101	107	112	5620	5648	5677	5443	5472	5502	12	.5
1400	400	10	6.85	81	85	89	93	97	5686	5708	5729	5511	5533	5555	12	.5
1400	440	10	6.71	72	76	79	83	86	5757	5773	5789	5584	5600	5617	11	.5
1400	480	10	6.58	65	68	71	73	76	5829	5841	5853	5658	5670	5683	11	.5
1400	520	10	6.46	59	61	63	65	68	5901	5910	5920	5733	5742	5752	11	.4
1400	560	10	6.35	53	55	57	59	61	5975	5982	5988	5809	5815	5822	11	.4
1600	360	10	8.16	110	115	120	125	131	5987	6012	6037	5769	5795	5821	14	.6
1600	400	10	8.00	99	103	107	112	116	6061	6080	6099	5847	5866	5885	14	.6
1600	440	10	7.87	90	94	97	101	104	6140	6154	6168	5928	5942	5957	13	.6
1600	480	10	7.75	83	85	88	91	94	6219	6230	6241	6010	6021	6032	13	.6
1600	520	10	7.64	76	78	80	83	85	6300	6308	6316	6093	6102	6110	13	.5
1600	560	10	7.53	70	72	74	75	77	6381	6387	6393	6177	6183	6189	13	.5
1000	360	15	2.64	38	43	47	52	56	3540	3569	3598	3396	3426	3457	4	.4
1000	400	15	2.51	30	34	38	42	45	3547	3568	3589	3403	3425	3447	4	.3
1000	440	15	2.39	24	27	30	33	37	3558	3573	3589	3414	3431	3447	4	.3
1000	480	15	2.29	19	22	24	27	29	3570	3582	3594	3427	3440	3452	4	.3
1000	520	15	2.19	15	17	19	21	23	3584	3592	3601	3441	3450	3459	4	.3
1000	560	15	2.10	11	13	15	17	18	3598	3604	3611	3456	3463	3469	4	.3
1200	360	15	3.54	45	50	55	59	64	4141	4171	4202	3964	3995	4027	6	.4
1200	400	15	3.38	37	41	45	48	52	4159	4181	4203	3982	4005	4029	6	.4
1200	440	15	3.23	30	33	37	40	43	4180	4197	4214	4004	4022	4039	5	.4
1200	480	15	3.09	25	27	30	32	35	4203	4215	4228	4028	4041	4054	5	.4
1200	520	15	2.97	20	22	24	26	28	4226	4235	4244	4052	4061	4071	5	.3
1200	560	15	2.85	16	17	19	21	23	4249	4256	4263	4076	4083	4090	5	.3
1400	360	15	4.55	56	60	65	70	75	4672	4701	4730	4457	4487	4518	8	.5
1400	400	15	4.36	47	51	54	58	62	4702	4723	4745	4488	4511	4534	7	.5
1400	440	15	4.19	39	42	46	49	52	4735	4751	4768	4523	4540	4557	7	.4
1400	480	15	4.04	33	36	38	41	43	4769	4781	4794	4559	4572	4585	7	.4
1400	520	15	3.90	27	30	32	34	36	4804	4813	4822	4595	4605	4614	7	.4
1400	560	15	3.76	23	25	26	28	30	4839	4845	4852	4632	4639	4646	6	.4
1600	360	15	5.59	68	73	78	83	88	5131	5159	5186	4876	4904	4933	9	.6
1600	400	15	5.40	59	63	67	70	74	5173	5194	5214	4920	4941	4962	9	.5
1600	440	15	5.22	51	54	57	60	64	5218	5234	5249	4967	4983	4999	9	.5
1600	480	15	5.06	44	46	49	52	54	5264	5276	5287	5015	5027	5039	9	.5
1600	520	15	4.91	38	40	42	44	46	5310	5319	5327	5063	5072	5081	8	.5
1600	560	15	4.76	32	34	36	38	40	5356	5362	5369	5112	5118	5125	8	.5
1800	360	15	6.64	83	88	93	98	103	5530	5555	5580	5229	5256	5282	11	.7
1800	400	15	6.44	72	76	80	84	88	5582	5601	5620	5284	5304	5323	11	.6
1800	440	15	6.27	64	67	70	74	77	5637	5651	5665	5342	5357	5372	11	.6
1800	480	15	6.10	56	59	62	65	67	5693	5703	5714	5401	5412	5423	10	.6
1800	520	15	5.95	50	52	54	57	59	5749	5757	5765	5460	5468	5477	10	.6
1800	560	15	5.80	44	46	48	50	51	5805	5811	5817	5519	5525	5531	10	.5
1200	360	20	2.34	35	39	43	48	52	3310	3331	3352	3084	3107	3130	4	.4
1200	400	20	2.23	27	31	35	38	42	3313	3328	3343	3088	3104	3120	4	.4
1200	440	20	2.12	22	25	28	30	33	3319	3330	3341	3094	3106	3118	4	.4
1200	480	20	2.03	17	19	22	24	27	3326	3334	3342	3102	3111	3120	3	.4
1200	520	20	1.94	13	15	17	19	21	3334	3340	3346	3111	3117	3124	3	.4
1200	560	20	1.87	9	11	13	14	16	3343	3347	3351	3120	3125	3129	3	.3

Table 6-37. (Sheet 2)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH WDU-4A/A WARHEAD
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 3 MILS
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS SIGHT SETTING - MILS NEG SETTING INDICATES ELEV 12.0	14.0	16.0	18.0	20.0	SLANT RANGE - FEET 12.0	16.0	20.0	HORIZONTAL RANGE - FT 12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
1400	360	20	3.00	39	44	48	52	57	3815	3837	3860	3548	3573	3597	5	.5
1400	400	20	2.85	31	35	39	42	46	3823	3840	3856	3558	3575	3593	5	.5
1400	440	20	2.71	25	28	31	34	37	3834	3847	3859	3570	3583	3596	5	.4
1400	480	20	2.59	20	22	25	27	30	3847	3856	3865	3583	3593	3602	4	.4
1400	520	20	2.48	15	17	20	22	24	3860	3866	3873	3597	3604	3611	4	.4
1400	560	20	2.37	12	13	15	17	18	3873	3878	3882	3611	3616	3621	4	.4
1600	360	20	3.76	46	50	55	59	64	4287	4311	4334	3978	4003	4028	6	.6
1600	400	20	3.58	37	41	45	48	52	4303	4320	4338	3995	4013	4032	6	.5
1600	440	20	3.42	31	34	37	40	43	4322	4334	4347	4015	4028	4042	6	.5
1600	480	20	3.27	25	27	30	32	35	4341	4350	4360	4035	4046	4056	6	.5
1600	520	20	3.14	20	22	24	26	28	4360	4367	4374	4056	4064	4071	5	.4
1600	560	20	3.01	16	17	19	21	22	4380	4385	4390	4077	4083	4088	5	.4
1800	360	20	4.60	54	59	63	68	73	4722	4746	4769	4366	4391	4416	8	.6
1800	400	20	4.40	45	49	53	56	60	4747	4764	4781	4392	4411	4429	7	.6
1800	440	20	4.22	38	41	44	47	50	4774	4786	4799	4421	4435	4449	7	.6
1800	480	20	4.06	32	34	37	39	42	4801	4810	4820	4451	4461	4471	7	.5
1800	520	20	3.90	26	28	30	32	34	4828	4835	4842	4480	4488	4495	7	.5
1800	560	20	3.75	21	23	25	26	28	4855	4860	4865	4509	4515	4520	6	.5
2000	360	20	5.48	64	69	74	78	83	5119	5141	5164	4712	4736	4761	9	.7
2000	400	20	5.27	55	59	62	66	70	5152	5169	5185	4748	4766	4784	9	.7
2000	440	20	5.09	47	50	53	56	59	5187	5200	5212	4786	4800	4813	9	.6
2000	480	20	4.91	40	43	45	48	50	5223	5232	5241	4825	4835	4845	8	.6
2000	520	20	4.74	34	36	38	40	42	5258	5265	5272	4863	4871	4878	8	.6
2000	560	20	4.58	29	30	32	34	35	5293	5298	5303	4901	4906	4912	8	.6
1800	360	30	2.50	31	35	39	44	48	3471	3484	3498	2968	2983	2999	4	.6
1800	400	30	2.38	25	28	31	34	38	3474	3484	3493	2971	2983	2994	4	.6
1800	440	30	2.26	19	22	25	27	30	3479	3486	3493	2977	2985	2993	4	.6
1800	480	30	2.16	15	17	19	21	24	3484	3489	3494	2983	2989	2995	4	.5
1800	520	30	2.06	11	13	14	16	18	3490	3493	3497	2990	2994	2998	3	.5
2000	360	30	2.98	35	39	43	47	51	3836	3850	3864	3274	3290	3307	5	.7
2000	400	30	2.83	27	31	34	37	41	3842	3852	3862	3280	3292	3304	5	.7
2000	440	30	2.70	22	24	27	30	33	3849	3856	3864	3289	3297	3306	5	.6
2000	480	30	2.57	17	19	21	23	26	3857	3862	3868	3298	3304	3310	4	.6
2000	520	30	2.45	13	14	16	18	20	3865	3869	3873	3307	3311	3316	4	.6
2000	560	30	2.34	9	10	12	13	15	3872	3875	3878	3316	3319	3322	4	.5
2200	360	30	3.53	39	43	47	51	55	4191	4206	4220	3567	3584	3602	6	.7
2200	400	30	3.35	31	34	38	41	44	4200	4210	4221	3577	3590	3602	6	.7
2200	440	30	3.20	25	28	30	33	36	4210	4218	4226	3590	3599	3608	5	.7
2200	480	30	3.05	20	22	24	26	29	4221	4227	4232	3602	3609	3616	5	.6
2200	520	30	2.91	15	17	19	21	23	4232	4236	4240	3615	3620	3625	5	.6
2200	560	30	2.78	11	12	14	15	17	4242	4245	4248	3627	3630	3634	5	.6
2400	360	30	4.13	44	48	52	56	60	4533	4548	4563	3846	3863	3881	7	.8
2400	400	30	3.94	36	39	43	46	49	4546	4557	4568	3861	3874	3887	7	.8
2400	440	30	3.76	29	32	35	38	40	4560	4568	4577	3878	3887	3897	6	.7
2400	480	30	3.59	24	26	28	30	33	4575	4581	4587	3895	3902	3909	6	.7
2400	520	30	3.44	19	21	22	24	26	4589	4594	4598	3912	3917	3922	6	.7
2400	560	30	3.28	14	15	17	18	20	4603	4606	4609	3927	3931	3935	6	.6
2600	360	30	4.78	50	54	59	63	67	4861	4877	4892	4108	4126	4144	8	.9
2600	400	30	4.57	42	45	48	52	55	4879	4890	4901	4128	4141	4155	8	.9
2600	440	30	4.38	35	37	40	43	46	4898	4906	4914	4150	4160	4170	7	.8
2600	480	30	4.19	28	31	33	35	38	4916	4922	4929	4173	4180	4187	7	.8
2600	520	30	4.02	23	25	27	29	31	4935	4939	4944	4194	4200	4205	7	.7
2600	560	30	3.85	18	19	21	22	24	4952	4955	4958	4214	4218	4222	6	.7
2800	360	30	5.48	58	62	66	70	74	5175	5190	5205	4352	4370	4388	9	1.0
2800	400	30	5.25	49	52	55	59	62	5197	5208	5220	4378	4392	4405	9	.9
2800	440	30	5.04	41	44	47	49	52	5221	5229	5237	4406	4416	4426	9	.9
2800	480	30	4.84	34	37	39	41	44	5244	5250	5256	4434	4441	4448	8	.8
2800	520	30	4.65	29	31	33	34	36	5267	5272	5276	4461	4467	4472	8	.8
2800	560	30	4.47	22	24	25	27	28	5288	5291	5295	4486	4490	4494	8	.8
3000	360	30	6.20	66	70	74	79	83	5473	5489	5504	4578	4596	4614	10	1.1
3000	400	30	5.96	56	60	63	67	70	5501	5512	5523	4611	4624	4637	10	1.0
3000	440	30	5.74	48	51	54	57	60	5529	5537	5546	4644	4654	4664	10	1.0
3000	480	30	5.53	41	44	46	48	51	5557	5563	5569	4678	4685	4692	9	.9
3000	520	30	5.33	35	37	39	41	43	5585	5590	5594	4711	4716	4722	9	.9
3000	560	30	5.13	28	30	31	33	34	5610	5614	5617	4741	4745	4748	9	.8

Table 6-37. (Sheet 3)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH WDU-4A/A WARHEAD
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 3 MILS
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS: SIGHT SETTING - MILS NEG SETTING INDICATES ELEV 12.0	14.0	16.0	18.0	20.0	SLANT RANGE - FEET 12.0	16.0	20.0	HORIZONTAL RANGE - FT 12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
3200	360	30	6.94	75	79	84	88	92	5758	5772	5787	4786	4804	4822	12	1.1
3200	400	30	6.70	65	69	72	75	79	5790	5800	5811	4825	4838	4851	11	1.1
3200	440	30	6.47	57	60	62	65	68	5823	5831	5839	4864	4874	4884	11	1.0
3200	480	30	6.25	49	52	54	56	59	5855	5861	5867	4904	4911	4918	11	1.0
3200	520	30	6.04	43	45	47	49	50	5888	5892	5897	4943	4948	4953	10	1.0
3200	560	30	5.83	35	36	38	40	41	5918	5921	5924	4978	4982	4985	10	.9
2600	360	45	2.63	23	27	30	33	36	3609	3615	3622	2503	2512	2522	4	.9
2600	400	45	2.50	18	20	23	26	28	3611	3616	3620	2506	2512	2519	4	.8
2600	440	45	2.38	13	15	17	20	22	3614	3617	3621	2510	2515	2520	4	.8
2800	360	45	2.99	25	28	32	35	38	3879	3886	3893	2684	2694	2704	5	.9
2800	400	45	2.84	19	22	25	27	30	3882	3887	3892	2689	2696	2703	5	.9
2800	440	45	2.70	14	17	19	21	23	3886	3890	3893	2694	2700	2705	5	.8
3000	360	45	3.39	28	31	34	37	41	4146	4154	4161	2862	2873	2883	6	1.0
3000	400	45	3.22	21	24	27	29	32	4151	4156	4161	2868	2876	2883	5	1.0
3000	440	45	3.06	16	18	21	23	25	4156	4160	4163	2876	2881	2887	5	.9
3000	480	45	2.91	12	14	16	17	19	4161	4164	4166	2883	2887	2891	5	.9
3200	360	45	3.82	30	34	37	40	44	4411	4418	4426	3035	3046	3057	6	1.1
3200	400	45	3.63	24	27	29	32	35	4416	4422	4427	3044	3051	3059	6	1.0
3200	440	45	3.46	19	21	23	25	27	4423	4427	4431	3053	3059	3065	6	1.0
3200	480	45	3.29	14	16	18	19	21	4429	4432	4435	3062	3067	3071	6	.9
3400	360	45	4.29	34	37	40	44	47	4671	4679	4686	3203	3214	3225	7	1.1
3400	400	45	4.08	27	30	32	35	38	4678	4684	4690	3214	3222	3230	7	1.1
3400	440	45	3.89	21	24	26	28	30	4687	4691	4695	3226	3231	3237	7	1.0
3400	480	45	3.71	16	18	20	22	24	4695	4698	4701	3237	3242	3246	6	1.0
3600	360	45	4.79	38	41	44	48	51	4927	4935	4943	3364	3376	3388	8	1.2
3600	400	45	4.57	30	33	36	39	41	4937	4943	4948	3378	3387	3395	8	1.1
3600	440	45	4.36	25	27	29	31	34	4947	4951	4955	3393	3399	3405	7	1.1
3600	480	45	4.16	19	21	23	25	27	4957	4960	4963	3407	3411	3416	7	1.0
3600	520	45	3.98	15	17	18	20	21	4966	4968	4971	3421	3424	3428	7	1.0
3800	360	45	5.32	42	45	49	52	56	5179	5188	5196	3520	3531	3543	9	1.3
3800	400	45	5.09	35	37	40	43	46	5191	5197	5203	3536	3545	3553	9	1.2
3800	440	45	4.86	28	31	33	35	37	5203	5207	5211	3554	3560	3566	8	1.2
3800	480	45	4.65	23	25	27	28	30	5215	5218	5221	3571	3575	3580	8	1.1
3800	520	45	4.45	18	20	21	23	24	5226	5228	5231	3588	3591	3594	8	1.1
4000	360	45	5.89	47	50	54	57	61	5427	5435	5443	3668	3680	3692	10	1.4
4000	400	45	5.63	39	42	45	47	50	5440	5446	5452	3688	3696	3705	10	1.3
4000	440	45	5.40	33	35	37	39	42	5455	5459	5463	3708	3715	3721	9	1.2
4000	480	45	5.17	27	29	30	32	34	5468	5471	5475	3729	3733	3738	9	1.2
4000	520	45	4.95	22	24	25	27	28	5482	5484	5487	3749	3752	3755	8	1.1
4000	560	45	4.74	14	16	17	18	19	5493	5494	5496	3764	3767	3769	8	1.1
4200	360	45	6.47	53	56	59	63	66	5670	5678	5686	3809	3821	3833	11	1.4
4200	400	45	6.21	44	47	50	53	55	5685	5691	5697	3832	3841	3850	10	1.4
4200	440	45	5.96	37	40	42	44	46	5702	5706	5710	3856	3863	3869	10	1.3
4200	480	45	5.72	31	33	35	37	39	5718	5721	5724	3880	3884	3889	10	1.3
4200	520	45	5.49	26	28	29	31	32	5733	5736	5738	3903	3906	3910	9	1.2
4200	560	45	5.26	18	19	21	22	23	5746	5748	5749	3922	3924	3926	9	1.1
4400	360	45	7.07	59	62	65	69	72	5908	5916	5924	3942	3955	3967	12	1.5
4400	400	45	6.80	50	53	56	58	61	5926	5932	5938	3969	3978	3987	11	1.5
4400	440	45	6.54	43	45	47	50	52	5944	5949	5953	3997	4003	4010	11	1.4
4400	480	45	6.29	36	38	40	42	44	5962	5965	5969	4023	4028	4033	11	1.3
4400	520	45	6.05	31	33	34	36	37	5980	5983	5985	4050	4054	4057	10	1.3
4400	560	45	5.81	23	24	25	26	27	5995	5997	5998	4072	4074	4077	10	1.2

Table 6-37. (Sheet 4)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH WDU-4A/A WARHEAD
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 3 MILS
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
800	360	10	3.06	41	46	51	56	61	3989	4031	4072	3908	3950	3993	5	.3
800	400	10	2.91	33	37	41	45	49	4007	4037	4068	3926	3957	3988	5	.2
800	440	10	2.78	27	30	33	36	39	4030	4052	4074	3949	3972	3995	5	.2
800	480	10	2.66	21	24	26	29	31	4055	4071	4087	3975	3992	4008	4	.2
800	520	10	2.55	17	19	21	23	25	4082	4094	4105	4003	4015	4027	4	.2
800	560	10	2.44	8	10	11	13	15	4098	4106	4115	4019	4028	4036	4	.2
1000	360	10	4.25	52	57	62	67	72	4728	4767	4806	4621	4661	4701	7	.3
1000	400	10	4.07	43	47	51	55	59	4765	4794	4823	4659	4689	4718	7	.3
1000	440	10	3.92	36	39	43	46	49	4807	4829	4850	4702	4724	4746	7	.3
1000	480	10	3.78	30	32	35	38	40	4851	4867	4883	4747	4763	4779	6	.3
1000	520	10	3.66	25	27	29	31	33	4896	4908	4920	4793	4805	4817	6	.3
1000	560	10	3.52	15	17	19	20	22	4930	4938	4947	4827	4836	4845	6	.2
1200	360	10	5.46	66	72	77	82	87	5326	5361	5396	5189	5225	5261	9	.4
1200	400	10	5.28	57	61	65	69	73	5381	5407	5433	5245	5272	5299	9	.4
1200	440	10	5.13	49	52	55	59	62	5440	5460	5479	5306	5326	5346	9	.4
1200	480	10	4.99	42	45	47	50	53	5501	5516	5530	5369	5383	5398	8	.3
1200	520	10	4.86	36	38	41	43	45	5563	5574	5584	5433	5443	5454	8	.3
1200	560	10	4.71	26	28	29	31	33	5614	5622	5630	5484	5492	5500	8	.3
1400	360	10	6.63	82	87	93	98	103	5815	5846	5877	5644	5676	5708	11	.5
1400	400	10	6.46	72	76	80	85	89	5884	5907	5930	5715	5739	5762	11	.4
1400	440	10	6.31	64	67	70	74	77	5956	5973	5990	5789	5807	5824	11	.4
1400	480	10	6.17	56	59	62	64	67	6030	6043	6056	5865	5879	5892	10	.4
1400	520	10	6.05	50	52	54	57	59	6106	6115	6124	5943	5952	5962	10	.4
1400	560	10	5.90	39	41	43	44	46	6170	6177	6184	6009	6016	6023	10	.4
1600	360	10	7.74	99	104	110	115	120	6225	6252	6280	6016	6044	6073	13	.5
1600	400	10	7.58	88	93	97	101	105	6304	6324	6344	6097	6118	6139	13	.5
1600	440	10	7.44	80	83	86	90	93	6386	6401	6416	6182	6198	6213	13	.5
1600	480	10	7.31	72	75	77	80	83	6469	6481	6492	6269	6280	6292	12	.5
1600	520	10	7.19	65	67	69	71	74	6554	6562	6570	6355	6364	6372	12	.5
1600	560	10	7.05	53	55	57	59	61	6629	6635	6641	6433	6439	6446	12	.4
1000	360	15	2.49	36	41	45	50	55	3563	3591	3620	3420	3449	3479	4	.3
1000	400	15	2.36	29	32	36	40	43	3569	3590	3610	3426	3448	3469	4	.3
1000	440	15	2.25	22	25	28	32	35	3579	3594	3609	3437	3452	3467	4	.3
1000	480	15	2.15	17	20	22	25	27	3591	3601	3612	3449	3460	3471	4	.3
1000	520	15	2.06	13	15	17	19	21	3604	3611	3619	3462	3470	3478	3	.3
1000	560	15	1.97	5	6	8	10	11	3609	3614	3620	3468	3473	3479	3	.3
1200	360	15	3.30	42	47	52	56	61	4185	4215	4246	4010	4041	4072	6	.4
1200	400	15	3.14	34	38	42	45	49	4202	4223	4245	4027	4049	4072	5	.4
1200	440	15	3.00	27	30	33	37	40	4221	4237	4253	4047	4063	4080	5	.3
1200	480	15	2.87	22	24	27	29	32	4242	4253	4265	4068	4080	4093	5	.3
1200	520	15	2.75	17	19	21	23	25	4263	4272	4280	4091	4100	4108	5	.3
1200	560	15	2.62	8	9	11	13	14	4275	4281	4288	4104	4110	4116	4	.3
1400	360	15	4.22	51	56	60	65	70	4745	4775	4805	4534	4565	4597	7	.4
1400	400	15	4.04	42	46	50	53	57	4774	4796	4818	4564	4587	4610	7	.4
1400	440	15	3.87	35	38	41	44	47	4805	4821	4837	4596	4613	4630	7	.4
1400	480	15	3.72	28	31	33	36	38	4837	4849	4861	4630	4642	4655	6	.4
1400	520	15	3.58	23	25	27	29	31	4870	4878	4887	4664	4673	4682	6	.4
1400	560	15	3.43	13	15	16	18	20	4892	4898	4904	4687	4694	4700	6	.3
1600	360	15	5.19	61	66	71	76	81	5241	5269	5298	4990	5020	5050	9	.5
1600	400	15	5.00	52	56	60	64	68	5281	5302	5323	5033	5055	5077	8	.5
1600	440	15	4.82	44	47	50	53	57	5324	5340	5355	5078	5095	5111	8	.5
1600	480	15	4.66	37	40	42	45	47	5369	5380	5391	5125	5137	5149	8	.4
1600	520	15	4.50	31	33	35	37	39	5412	5421	5429	5171	5179	5188	8	.4
1600	560	15	4.34	20	22	24	26	27	5446	5452	5459	5206	5212	5219	7	.4
1800	360	15	6.18	74	79	84	89	94	5677	5703	5730	5384	5412	5440	10	.5
1800	400	15	5.98	64	68	72	76	80	5728	5748	5768	5438	5459	5480	10	.6
1800	440	15	5.80	55	58	62	65	68	5782	5797	5812	5495	5510	5526	10	.5
1800	480	15	5.63	48	50	53	56	58	5838	5848	5859	5553	5565	5576	10	.5
1800	520	15	5.47	41	43	45	47	49	5892	5900	5907	5610	5618	5626	9	.5
1800	560	15	5.30	30	32	33	35	37	5937	5943	5949	5658	5664	5670	9	.5
1200	360	20	2.21	33	37	42	46	51	3323	3343	3364	3099	3120	3142	4	.4
1200	400	20	2.10	26	29	33	37	40	3326	3340	3355	3102	3117	3133	4	.4
1200	440	20	2.00	20	23	26	29	32	3331	3342	3352	3108	3119	3130	3	.4
1200	480	20	1.92	15	17	20	22	25	3338	3345	3353	3115	3123	3131	3	.4
1200	520	20	1.84	11	13	15	17	19	3346	3351	3356	3123	3129	3134	3	.3
1200	560	20	1.77	3	4	6	7	9	3348	3352	3355	3125	3129	3134	3	.3

Table 6-37. (Sheet 5)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH WDU-4A/A WARHEAD
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 3 MILS
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS: SIGHT SETTING - MILS, NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
1400	360	20	2.80	37	41	46	50	55	3838	3860	3882	3574	3597	3621	5	.4
1400	400	20	2.65	29	33	36	40	44	3846	3861	3877	3582	3599	3616	4	.4
1400	440	20	2.53	23	26	29	32	35	3856	3867	3878	3592	3605	3617	4	.4
1400	480	20	2.41	18	20	22	25	27	3867	3875	3883	3604	3613	3622	4	.4
1400	520	20	2.30	13	15	17	19	21	3879	3885	3890	3617	3623	3630	4	.4
1400	560	20	2.20	4	6	7	9	11	3884	3888	3892	3622	3627	3632	4	.3
1600	360	20	3.48	42	47	51	56	60	4326	4349	4372	4019	4044	4069	6	.5
1600	400	20	3.31	34	38	41	45	49	4340	4357	4374	4035	4053	4071	6	.5
1600	440	20	3.16	27	30	33	36	39	4357	4369	4381	4052	4066	4079	5	.5
1600	480	20	3.01	21	24	26	29	31	4374	4383	4392	4071	4081	4090	5	.4
1600	520	20	2.88	16	18	20	22	24	4392	4398	4404	4090	4097	4103	5	.4
1600	560	20	2.75	7	9	10	12	13	4402	4406	4411	4100	4105	4110	5	.4
1800	360	20	4.24	49	54	58	63	67	4782	4805	4829	4430	4455	4481	7	.6
1800	400	20	4.05	40	44	48	51	55	4804	4821	4839	4455	4473	4491	7	.5
1800	440	20	3.87	33	36	39	42	45	4829	4841	4854	4481	4494	4508	7	.5
1800	480	20	3.71	27	29	32	34	37	4854	4863	4872	4508	4518	4527	6	.5
1800	520	20	3.56	21	23	25	27	29	4878	4885	4891	4534	4541	4548	6	.5
1800	560	20	3.40	11	13	14	16	18	4895	4899	4904	4552	4557	4562	6	.4
2000	360	20	5.05	58	62	67	72	76	5204	5227	5250	4804	4829	4854	9	.6
2000	400	20	4.84	48	52	56	59	63	5235	5252	5269	4838	4856	4874	8	.6
2000	440	20	4.65	40	43	46	49	53	5268	5280	5292	4873	4886	4900	8	.6
2000	480	20	4.48	34	36	39	41	44	5301	5310	5319	4909	4919	4929	8	.5
2000	520	20	4.31	27	29	31	33	35	5333	5339	5346	4944	4951	4957	7	.5
2000	560	20	4.13	16	18	20	21	23	5357	5362	5367	4970	4975	4980	7	.5
1800	360	30	2.35	30	34	38	42	46	3481	3493	3506	2980	2994	3009	4	.6
1800	400	30	2.23	23	26	30	33	36	3484	3492	3501	2982	2993	3003	4	.5
1800	440	30	2.12	17	20	23	26	28	3488	3494	3500	2987	2995	3002	4	.5
1800	480	30	2.03	13	15	17	19	22	3492	3497	3502	2993	2998	3003	3	.5
2000	360	30	2.77	32	36	40	45	49	3851	3864	3878	3291	3306	3322	5	.6
2000	400	30	2.63	25	29	32	35	39	3856	3865	3875	3296	3308	3319	4	.6
2000	440	30	2.50	19	22	25	28	30	3862	3869	3876	3304	3312	3320	4	.6
2000	480	30	2.38	14	17	19	21	23	3869	3874	3879	3312	3317	3323	4	.5
2000	520	30	2.27	10	11	13	15	17	3875	3879	3882	3319	3323	3327	4	.5
2000	560	30	2.17	1	2	4	5	7	3878	3880	3883	3322	3325	3328	4	.5
2200	360	30	3.26	36	40	44	48	52	4212	4226	4241	3592	3609	3625	5	.7
2200	400	30	3.09	28	31	35	38	42	4220	4230	4240	3601	3613	3625	5	.6
2200	440	30	2.94	22	25	27	30	33	4229	4236	4244	3612	3620	3629	5	.6
2200	480	30	2.80	17	19	21	23	26	4239	4244	4249	3623	3629	3635	5	.6
2200	520	30	2.67	11	13	15	17	18	4247	4251	4255	3633	3637	3642	5	.6
2200	560	30	2.54	2	4	5	7	8	4252	4254	4257	3638	3641	3645	4	.5
2400	360	30	3.79	40	44	48	52	56	4563	4578	4593	3881	3899	3916	6	.7
2400	400	30	3.60	32	35	39	42	45	4575	4586	4596	3895	3907	3920	6	.7
2400	440	30	3.43	25	28	31	34	36	4588	4595	4603	3910	3919	3928	6	.7
2400	480	30	3.27	20	22	24	27	29	4601	4606	4612	3925	3931	3938	6	.6
2400	520	30	3.12	14	15	17	19	21	4612	4616	4620	3938	3943	3947	5	.6
2400	560	30	2.98	4	6	7	9	10	4619	4622	4625	3946	3950	3953	5	.5
2600	360	30	4.37	45	49	53	57	62	4903	4918	4934	4157	4175	4193	7	.8
2600	400	30	4.17	36	40	43	47	50	4919	4930	4941	4176	4189	4201	7	.8
2600	440	30	3.98	29	32	35	38	40	4936	4943	4951	4195	4205	4214	7	.7
2600	480	30	3.80	24	26	28	30	33	4953	4958	4964	4215	4222	4229	6	.7
2600	520	30	3.63	17	19	20	22	24	4967	4971	4975	4233	4237	4242	6	.7
2600	560	30	3.46	7	9	10	12	13	4978	4981	4984	4245	4248	4252	6	.6
2800	360	30	4.99	51	55	59	63	68	5231	5246	5261	4418	4436	4454	8	.9
2800	400	30	4.77	42	45	49	52	56	5251	5262	5273	4442	4455	4468	8	.8
2800	440	30	4.56	34	37	40	43	46	5272	5280	5288	4467	4476	4486	8	.8
2800	480	30	4.37	28	30	33	35	37	5293	5299	5305	4492	4499	4506	7	.7
2800	520	30	4.18	21	23	24	26	28	5312	5316	5320	4514	4519	4524	7	.7
2800	560	30	4.00	11	12	14	15	17	5326	5329	5332	4531	4534	4538	7	.7
3000	360	30	5.64	57	62	66	70	74	5545	5560	5576	4663	4682	4700	10	.9
3000	400	30	5.40	48	52	55	59	62	5570	5581	5592	4693	4706	4720	9	.9
3000	440	30	5.19	40	43	46	49	51	5596	5604	5612	4724	4733	4743	9	.8
3000	480	30	4.98	34	36	38	41	43	5622	5628	5634	4755	4761	4768	8	.8
3000	520	30	4.78	26	27	29	31	33	5645	5649	5653	4781	4786	4791	8	.8
3000	560	30	4.58	15	17	18	20	21	5663	5666	5670	4803	4807	4811	8	.7

Table 6-37. (Sheet 6)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH WDU-4A/A WARHEAD
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 3 MILS
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
3200	360	30	6.31	65	69	74	78	82	5846	5862	5877	4893	4911	4929	11	1.0
3200	400	30	6.07	55	59	62	66	69	5876	5887	5899	4929	4942	4955	10	1.0
3200	440	30	5.84	47	50	53	55	58	5907	5915	5923	4965	4974	4984	10	.9
3200	480	30	5.62	40	42	45	47	49	5938	5943	5949	5001	5008	5015	9	.9
3200	520	30	5.41	31	33	35	36	38	5964	5969	5973	5033	5038	5043	9	.8
3200	560	30	5.20	20	22	24	25	27	5988	5991	5994	5061	5065	5069	9	.8
2600	360	45	2.46	22	25	28	32	35	3614	3620	3627	2511	2520	2528	4	.8
2600	400	45	2.33	16	19	21	24	27	3616	3621	3625	2513	2520	2526	4	.8
2800	360	45	2.77	23	27	30	33	37	3886	3893	3899	2695	2704	2714	5	.9
2800	400	45	2.63	17	20	23	25	28	3889	3894	3898	2699	2706	2712	4	.8
3000	360	45	3.12	25	28	32	35	38	4156	4163	4170	2876	2886	2896	5	.9
3000	400	45	2.96	19	22	24	27	30	4160	4165	4170	2882	2889	2896	5	.9
3000	440	45	2.81	14	16	18	20	23	4164	4168	4171	2888	2893	2898	5	.8
3200	360	45	3.50	27	31	34	37	41	4423	4431	4438	3054	3064	3075	6	1.0
3200	400	45	3.32	21	24	26	29	32	4429	4434	4439	3061	3069	3076	6	.9
3200	440	45	3.15	16	18	20	22	24	4434	4438	4441	3069	3075	3080	5	.9
3400	360	45	3.91	30	33	37	40	43	4688	4695	4703	3227	3238	3249	7	1.0
3400	400	45	3.71	23	26	29	32	34	4694	4700	4705	3237	3245	3252	6	1.0
3400	440	45	3.53	18	20	22	24	27	4701	4705	4709	3247	3253	3258	6	.9
3400	480	45	3.36	13	15	17	19	20	4709	4711	4714	3258	3262	3265	6	.9
3600	360	45	4.34	33	36	40	43	46	4949	4957	4964	3396	3407	3418	7	1.1
3600	400	45	4.13	26	29	32	34	37	4957	4963	4968	3408	3416	3424	7	1.0
3600	440	45	3.93	20	22	25	27	29	4966	4970	4974	3421	3426	3432	7	1.0
3600	480	45	3.75	15	17	19	21	23	4975	4978	4980	3433	3437	3441	6	.9
3800	360	45	4.81	36	40	43	47	50	5207	5215	5223	3560	3571	3583	8	1.1
3800	400	45	4.58	29	32	35	37	40	5217	5223	5228	3574	3583	3591	8	1.1
3800	440	45	4.37	23	25	27	30	32	5227	5231	5235	3589	3595	3601	7	1.0
3800	480	45	4.17	18	20	22	24	25	5238	5241	5244	3605	3609	3613	7	1.0
4000	360	45	5.30	40	44	47	51	54	5461	5469	5477	3717	3729	3741	9	1.2
4000	400	45	5.06	33	36	38	41	44	5473	5479	5484	3735	3744	3752	9	1.1
4000	440	45	4.83	26	29	31	33	35	5485	5489	5493	3753	3759	3765	8	1.1
4000	480	45	4.61	21	23	25	27	28	5498	5500	5503	3771	3776	3780	8	1.0
4000	520	45	4.40	13	14	16	17	19	5507	5509	5511	3785	3788	3791	7	1.0
4000	560	45	4.20	4	5	6	7	9	5514	5516	5518	3796	3798	3800	7	.9
4200	360	45	5.81	45	48	52	55	58	5711	5719	5727	3869	3881	3893	10	1.3
4200	400	45	5.56	37	40	42	45	48	5725	5731	5737	3890	3899	3907	9	1.2
4200	440	45	5.31	30	32	34	37	39	5739	5743	5748	3911	3917	3923	9	1.2
4200	480	45	5.09	25	26	28	30	32	5754	5757	5760	3933	3937	3941	9	1.1
4200	520	45	4.86	16	18	19	20	22	5765	5767	5769	3949	3952	3955	8	1.0
4200	560	45	4.65	6	7	9	10	11	5774	5775	5777	3962	3964	3967	8	1.0
4400	360	45	6.34	49	53	56	60	63	5957	5965	5973	4015	4027	4039	11	1.3
4400	400	45	6.08	41	44	47	50	52	5973	5979	5985	4039	4048	4057	10	1.3
4400	440	45	5.82	34	36	39	41	43	5989	5994	5998	4064	4070	4076	10	1.2
4400	480	45	5.58	28	30	32	34	36	6006	6009	6012	4088	4092	4097	9	1.2
4400	520	45	5.34	20	21	22	24	25	6019	6021	6023	4107	4110	4113	9	1.1
4400	560	45	5.11	9	11	12	13	14	6030	6031	6033	4123	4125	4128	9	1.1

Table 6-37. (Sheet 7)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH WDU-4A/A WARHEAD
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 3 MILS
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS												
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
800	360	10	2.88	39	44	49	53	58	4035	4076	4117	3955	3996	4038	5	.2
800	400	10	2.73	31	35	39	42	46	4051	4080	4110	3971	4001	4031	5	.2
800	440	10	2.60	24	27	30	33	37	4072	4093	4114	3992	4014	4035	4	.2
800	480	10	2.49	19	21	24	26	28	4096	4111	4125	4017	4032	4047	4	.2
800	520	10	2.37	9	11	13	15	17	4108	4118	4129	4029	4040	4050	4	.2
800	560	10	2.27	-0	2	4	6	7	4117	4127	4136	4039	4048	4058	4	.2
1000	360	10	3.98	48	53	58	63	68	4817	4857	4897	4712	4753	4794	7	.3
1000	400	10	3.80	39	43	47	51	55	4852	4882	4911	4748	4778	4808	6	.3
1000	440	10	3.65	32	35	38	41	45	4892	4913	4934	4789	4811	4832	6	.3
1000	480	10	3.51	26	28	31	33	36	4935	4950	4965	4833	4848	4863	6	.2
1000	520	10	3.37	15	17	19	21	23	4964	4975	4986	4862	4873	4884	6	.2
1000	560	10	3.23	6	7	9	11	13	4990	5000	5011	4889	4899	4910	5	.2
1200	360	10	5.12	60	66	71	76	81	5466	5503	5540	5332	5370	5408	9	.3
1200	400	10	4.94	51	55	59	63	67	5521	5548	5575	5389	5416	5444	8	.3
1200	440	10	4.78	43	46	49	52	56	5579	5599	5618	5449	5469	5489	8	.3
1200	480	10	4.64	36	38	41	44	46	5640	5654	5668	5511	5525	5539	8	.3
1200	520	10	4.48	24	26	28	31	33	5687	5697	5708	5559	5570	5580	8	.3
1200	560	10	4.33	14	16	18	20	22	5733	5742	5752	5606	5616	5625	7	.3
1400	360	10	6.25	74	79	85	90	95	6005	6039	6072	5840	5874	5909	11	.4
1400	400	10	6.07	64	68	72	76	81	6076	6100	6124	5912	5937	5962	10	.4
1400	440	10	5.91	56	59	62	65	69	6150	6167	6185	5988	6006	6024	10	.4
1400	480	10	5.76	48	50	53	56	58	6225	6237	6250	6065	6078	6091	10	.4
1400	520	10	5.61	36	38	40	42	44	6288	6298	6307	6130	6140	6150	9	.3
1400	560	10	5.46	25	27	29	31	33	6350	6359	6368	6194	6203	6212	9	.3
1600	360	10	7.33	89	94	100	105	110	6462	6492	6522	6260	6292	6323	12	.5
1600	400	10	7.15	78	83	87	91	95	6544	6566	6588	6346	6368	6391	12	.5
1600	440	10	7.00	70	73	76	79	83	6630	6646	6662	6434	6450	6467	12	.4
1600	480	10	6.86	61	64	66	69	72	6716	6727	6738	6522	6534	6545	12	.4
1600	520	10	6.71	48	51	53	55	57	6792	6801	6809	6601	6610	6618	11	.4
1600	560	10	6.56	38	40	42	44	46	6868	6876	6884	6679	6687	6695	11	.4
1000	360	15	2.35	34	39	44	48	53	3584	3611	3638	3442	3470	3498	4	.3
1000	400	15	2.22	27	30	34	38	42	3589	3608	3628	3447	3467	3487	4	.3
1000	440	15	2.12	20	23	26	29	32	3598	3611	3625	3456	3470	3484	4	.3
1000	480	15	2.03	15	18	20	22	25	3609	3618	3628	3468	3477	3487	3	.3
1000	520	15	1.94	5	7	9	11	13	3612	3619	3625	3471	3478	3485	3	.3
1000	560	15	1.86	-3	-1	1	3	4	3614	3620	3626	3473	3479	3486	3	.2
1200	360	15	3.08	39	44	49	54	58	4225	4254	4283	4051	4081	4112	5	.3
1200	400	15	2.92	31	35	39	42	46	4239	4260	4281	4065	4087	4109	5	.3
1200	440	15	2.78	24	27	30	33	37	4256	4271	4286	4084	4099	4114	5	.3
1200	480	15	2.66	19	21	23	26	28	4275	4286	4296	4103	4114	4125	4	.3
1200	520	15	2.53	8	10	12	14	16	4285	4292	4299	4113	4121	4129	4	.3
1200	560	15	2.42	-1	1	3	5	7	4293	4300	4307	4122	4129	4136	4	.3
1400	360	15	3.92	46	51	56	61	66	4812	4841	4871	4603	4635	4666	7	.4
1400	400	15	3.74	38	41	45	49	53	4837	4859	4880	4630	4653	4675	6	.4
1400	440	15	3.57	30	33	36	39	43	4866	4881	4897	4660	4676	4693	6	.4
1400	480	15	3.42	24	26	29	31	33	4895	4906	4917	4691	4702	4713	6	.3
1400	520	15	3.27	13	15	17	19	21	4915	4922	4930	4711	4719	4727	6	.3
1400	560	15	3.13	4	5	7	9	11	4932	4940	4947	4729	4737	4745	5	.3
1600	360	15	4.82	55	60	65	70	75	5340	5370	5399	5095	5126	5156	8	.5
1600	400	15	4.62	46	50	54	58	61	5379	5400	5421	5135	5157	5180	8	.4
1600	440	15	4.44	38	41	44	47	50	5420	5435	5450	5178	5194	5210	7	.4
1600	480	15	4.27	31	33	35	38	40	5460	5471	5482	5221	5232	5243	7	.4
1600	520	15	4.10	19	21	23	25	27	5491	5499	5507	5253	5261	5269	7	.4
1600	560	15	3.94	9	11	13	15	17	5520	5528	5535	5283	5291	5299	7	.4
1800	360	15	5.74	66	71	76	81	86	5813	5841	5869	5527	5557	5586	10	.5
1800	400	15	5.53	56	60	64	68	72	5863	5884	5904	5580	5602	5623	9	.5
1800	440	15	5.35	47	50	54	57	60	5916	5931	5945	5636	5651	5666	9	.5
1800	480	15	5.17	39	42	44	47	49	5968	5978	5988	5690	5701	5711	9	.4
1800	520	15	4.99	27	29	31	33	35	6011	6018	6026	5735	5743	5751	8	.4
1800	560	15	4.82	17	19	21	23	25	6052	6059	6066	5778	5786	5793	8	.4
1200	360	20	2.10	32	36	40	45	49	3335	3354	3373	3112	3132	3153	4	.4
1200	400	20	1.99	24	28	31	35	39	3338	3351	3364	3114	3129	3143	3	.4
1200	440	20	1.90	18	21	24	27	30	3342	3352	3361	3119	3129	3139	3	.3
1200	480	20	1.82	13	16	18	20	22	3349	3355	3362	3126	3133	3140	3	.3
1200	520	20	1.75	3	5	7	9	11	3349	3354	3359	3127	3132	3137	3	.3
1200	560	20	1.68	-5	-3	-1	1	2	3350	3354	3358	3128	3132	3137	3	.3

Table 6-37. (Sheet 8)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH WDU-4A/A WARHEAD
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 3 MILS
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
1400	360	20	2.62	35	39	44	48	53	3859	3879	3901	3596	3618	3641	4	.4
1400	400	20	2.48	27	31	34	38	41	3865	3880	3895	3602	3618	3634	4	.4
1400	440	20	2.36	21	23	26	29	32	3874	3884	3895	3612	3623	3634	4	.4
1400	480	20	2.25	15	17	20	22	24	3884	3891	3898	3622	3630	3638	4	.4
1400	520	20	2.14	5	7	9	11	13	3887	3892	3897	3626	3632	3637	4	.3
1400	560	20	2.05	-3	-2	0	2	4	3890	3895	3899	3629	3634	3639	3	.3
1600	360	20	3.23	39	43	48	53	57	4360	4382	4405	4055	4080	4104	5	.5
1600	400	20	3.06	31	34	38	42	45	4372	4388	4404	4069	4086	4103	5	.4
1600	440	20	2.92	24	27	30	33	36	4387	4398	4409	4085	4097	4109	5	.4
1600	480	20	2.78	18	20	22	25	27	4402	4410	4417	4101	4109	4117	5	.4
1600	520	20	2.65	7	9	11	13	15	4410	4415	4421	4109	4115	4121	4	.4
1600	560	20	2.52	-1	0	2	4	6	4417	4422	4427	4117	4122	4128	4	.4
1800	360	20	3.91	45	49	54	58	63	4834	4857	4880	4486	4511	4536	7	.5
1800	400	20	3.72	36	40	43	47	51	4854	4871	4887	4508	4526	4543	6	.5
1800	440	20	3.55	29	32	35	38	41	4876	4888	4900	4532	4544	4557	6	.5
1800	480	20	3.39	22	24	26	29	31	4897	4906	4914	4555	4563	4572	6	.4
1800	520	20	3.24	11	13	15	17	18	4912	4918	4924	4570	4576	4583	5	.4
1800	560	20	3.09	2	4	5	7	9	4924	4930	4936	4584	4590	4596	5	.4
2000	360	20	4.65	52	56	61	66	70	5278	5302	5325	4885	4910	4935	8	.6
2000	400	20	4.44	42	46	50	53	57	5307	5324	5340	4916	4934	4952	7	.5
2000	440	20	4.25	34	37	41	44	47	5337	5349	5361	4948	4961	4974	7	.5
2000	480	20	4.08	27	29	31	34	36	5366	5374	5382	4979	4988	4997	7	.5
2000	520	20	3.90	15	17	19	21	23	5388	5394	5400	5003	5009	5016	7	.5
2000	560	20	3.73	6	8	10	12	13	5408	5414	5419	5024	5031	5037	6	.4
1800	360	30	2.21	28	32	36	41	45	3490	3501	3513	2990	3003	3017	4	.5
1800	400	30	2.10	21	25	28	31	35	3492	3500	3508	2992	3001	3011	4	.5
1800	440	30	2.00	16	18	21	24	26	3495	3501	3507	2996	3003	3009	3	.5
1800	480	30	1.91	10	12	14	17	19	3499	3503	3507	3000	3005	3009	3	.5
1800	520	30	1.83	0	2	4	6	8	3499	3502	3505	3001	3004	3008	3	.5
1800	560	30	1.76	-7	-6	-4	-2	-1	3500	3502	3505	3001	3004	3007	3	.4
2000	360	30	2.59	30	34	39	43	47	3863	3876	3889	3305	3320	3335	4	.6
2000	400	30	2.45	23	26	30	33	36	3867	3876	3885	3310	3320	3331	4	.5
2000	440	30	2.33	17	20	23	25	28	3873	3879	3885	3316	3324	3331	4	.5
2000	480	30	2.22	11	13	15	18	20	3878	3882	3886	3322	3327	3332	4	.5
2000	520	30	2.12	1	3	5	7	9	3880	3883	3886	3324	3328	3332	4	.5
2000	560	30	2.02	-7	-5	-3	-2	0	3881	3884	3887	3326	3329	3333	3	.5
2200	360	30	3.01	33	37	41	45	50	4230	4244	4257	3613	3629	3645	5	.6
2200	400	30	2.86	25	29	32	35	39	4237	4246	4256	3621	3632	3643	5	.5
2200	440	30	2.71	19	22	25	27	30	4245	4252	4258	3630	3638	3646	5	.6
2200	480	30	2.58	13	15	17	19	21	4252	4256	4261	3639	3644	3649	4	.5
2200	520	30	2.46	3	5	6	8	10	4256	4259	4262	3643	3647	3651	4	.5
2200	560	30	2.34	-5	-4	-2	-0	1	4258	4261	4265	3646	3650	3653	4	.5
2400	360	30	3.49	36	40	45	49	53	4589	4604	4618	3912	3928	3945	6	.7
2400	400	30	3.31	28	32	35	38	42	4599	4609	4619	3923	3935	3947	6	.6
2400	440	30	3.14	22	25	27	30	33	4610	4617	4624	3936	3945	3953	5	.5
2400	480	30	2.99	15	17	19	21	23	4620	4625	4629	3947	3953	3959	5	.6
2400	520	30	2.85	5	6	8	10	12	4626	4629	4633	3955	3959	3963	5	.5
2400	560	30	2.71	-4	-2	-1	1	3	4631	4634	4637	3960	3964	3968	5	.5
2600	360	30	4.00	40	44	49	53	57	4939	4954	4968	4199	4216	4234	7	.7
2600	400	30	3.80	32	35	39	42	45	4953	4963	4973	4215	4227	4240	6	.7
2600	440	30	3.62	25	28	31	33	36	4967	4975	4982	4233	4241	4250	6	.6
2600	480	30	3.45	17	19	21	24	26	4980	4985	4990	4247	4253	4259	6	.5
2600	520	30	3.28	7	9	11	12	14	4989	4993	4997	4258	4262	4267	6	.6
2600	560	30	3.13	-2	-0	2	3	5	4997	5000	5004	4267	4271	4275	5	.6
2800	360	30	4.55	45	49	53	58	62	5278	5293	5308	4474	4492	4510	8	.8
2800	400	30	4.33	36	40	43	46	50	5296	5307	5317	4495	4508	4520	7	.7
2800	440	30	4.14	29	32	35	37	40	5315	5323	5330	4518	4527	4535	7	.7
2800	480	30	3.95	20	23	25	27	29	5331	5336	5341	4536	4542	4548	7	.7
2800	520	30	3.76	10	12	14	16	17	5344	5348	5352	4552	4556	4561	6	.6
2800	560	30	3.59	1	2	4	6	8	5355	5358	5362	4564	4569	4573	6	.6
3000	360	30	5.13	50	55	59	63	67	5607	5622	5637	4736	4754	4772	9	.8
3000	400	30	4.90	41	45	48	51	55	5629	5640	5650	4763	4776	4788	8	.8
3000	440	30	4.69	34	36	39	42	45	5652	5660	5668	4791	4800	4809	8	.7
3000	480	30	4.48	24	27	29	31	33	5672	5677	5683	4814	4820	4826	8	.7
3000	520	30	4.28	14	15	17	19	21	5689	5693	5697	4834	4839	4844	7	.7
3000	560	30	4.09	4	6	7	9	11	5704	5707	5711	4851	4855	4860	7	.6

Table 6-37. (Sheet 9)

F-5E LAUNCH TABLES FOR 2.75 INCH FFAR WITH WDU-4A/A WARHEAD
LAU-3, LAU-60, AND LAU-68 LAUNCHERS
LOAD CONFIGURATION; CENTERLINE LOADED AND ONE STATION ON EACH WING LOADED
NOTE
WITH ALL STATIONS LOADED, INCREASE THE SIGHT SETTINGS 3 MILS
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
3200	360	30	5.73	56	61	65	69	74	5923	5939	5954	4985	5003	5021	10	.9
3200	400	30	5.49	47	50	54	57	61	5951	5961	5972	5017	5030	5043	9	.8
3200	440	30	5.27	39	42	44	47	50	5979	5986	5994	5050	5059	5068	9	.8
3200	480	30	5.05	29	31	33	35	37	6003	6008	6013	5078	5085	5091	9	.8
3200	520	30	4.84	18	20	22	24	25	6024	6028	6032	5104	5109	5114	8	.7
3200	560	30	4.63	8	10	11	13	15	6042	6046	6050	5126	5130	5135	8	.7
2600	360	45	2.30	20	24	27	30	34	3619	3625	3631	2518	2526	2534	4	.8
2800	360	45	2.58	21	25	28	32	35	3893	3899	3905	2704	2713	2722	4	.8
2800	400	45	2.44	15	18	21	24	26	3895	3899	3903	2707	2714	2720	4	.8
3000	360	45	2.88	23	26	30	33	36	4165	4171	4177	2888	2898	2907	5	.8
3000	400	45	2.73	17	19	22	25	28	4168	4172	4177	2893	2899	2906	5	.8
3200	360	45	3.21	25	28	31	35	38	4434	4441	4448	3070	3080	3089	5	.9
3200	400	45	3.04	18	21	24	26	29	4439	4443	4448	3076	3083	3089	5	.8
3400	360	45	3.57	27	30	34	37	40	4702	4709	4716	3248	3258	3268	6	.9
3400	400	45	3.38	20	23	26	28	31	4708	4712	4717	3256	3263	3270	6	.9
3400	440	45	3.21	15	17	19	21	24	4714	4717	4721	3265	3270	3275	5	.8
3600	360	45	3.95	29	33	36	39	43	4967	4974	4982	3422	3433	3443	7	1.0
3600	400	45	3.75	22	25	28	30	33	4974	4979	4984	3432	3440	3447	6	.9
3600	440	45	3.56	17	19	21	23	25	4982	4985	4989	3443	3449	3454	6	.9
3800	360	45	4.35	32	35	39	42	46	5229	5237	5244	3593	3603	3614	7	1.0
3800	400	45	4.14	25	27	30	33	36	5238	5243	5248	3605	3613	3620	7	1.0
3800	440	45	3.94	19	21	23	25	28	5247	5251	5255	3618	3624	3629	7	.9
3800	480	45	3.74	11	12	14	16	17	5254	5256	5259	3628	3632	3635	6	.9
3800	520	45	3.56	1	2	4	5	7	5259	5261	5263	3635	3638	3641	6	.8
3800	560	45	3.39	-8	-7	-5	-4	-2	5262	5264	5266	3640	3643	3646	6	.8
4000	360	45	4.78	35	38	42	45	49	5489	5496	5504	3758	3770	3781	8	1.1
4000	400	45	4.55	27	30	33	36	38	5499	5504	5510	3773	3781	3789	8	1.0
4000	440	45	4.33	21	24	26	28	30	5510	5514	5518	3790	3795	3800	7	1.0
4000	480	45	4.13	13	14	16	18	20	5518	5521	5523	3801	3805	3809	7	.9
4000	520	45	3.93	3	4	6	7	9	5524	5526	5529	3810	3813	3816	7	.9
4000	560	45	3.74	-6	-5	-4	-2	-1	5529	5531	5533	3817	3820	3823	6	.8
4200	360	45	5.23	38	42	45	49	52	5745	5753	5761	3919	3931	3943	9	1.1
4200	400	45	4.98	30	33	36	39	41	5757	5762	5768	3937	3945	3953	8	1.1
4200	440	45	4.75	24	26	29	31	33	5770	5774	5778	3956	3962	3967	8	1.0
4200	480	45	4.53	15	17	19	20	22	5780	5782	5785	3970	3974	3978	8	1.0
4200	520	45	4.32	5	6	8	9	11	5787	5789	5792	3981	3985	3988	7	.9
4200	560	45	4.12	-4	-3	-2	-0	1	5794	5796	5798	3991	3994	3997	7	.9
4400	360	45	5.69	42	45	49	52	56	5997	6005	6013	4075	4087	4099	10	1.2
4400	400	45	5.43	34	37	39	42	45	6012	6017	6023	4096	4105	4113	9	1.1
4400	440	45	5.19	27	30	32	34	36	6027	6031	6034	4118	4124	4130	9	1.1
4400	480	45	4.96	18	20	21	23	25	6038	6041	6043	4135	4139	4143	8	1.0
4400	520	45	4.73	7	9	10	12	13	6047	6050	6052	4148	4152	4155	8	1.0
4400	560	45	4.52	-2	-1	1	2	4	6055	6058	6060	4160	4163	4166	8	.9

Table 6-38. (Sheet 1)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH MK-1/MK-5 WARHEAD AND MK61 PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS											WIND CORRECTIONS FACTORS	
				12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0		
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
900	360	10	2.36	26	31	36	40	45	4715	4776	4838	4628	4690	4754	4	.2
900	400	10	2.30	20	24	27	31	35	4700	4744	4788	4613	4657	4702	4	.2
900	440	10	2.25	15	18	21	24	27	4699	4731	4764	4612	4645	4678	4	.2
900	480	10	2.20	10	13	15	18	21	4702	4725	4749	4615	4639	4663	4	.2
900	520	10	2.16	7	9	11	13	15	4712	4730	4749	4625	4644	4663	4	.1
900	560	10	2.12	4	6	7	9	11	4726	4740	4754	4640	4654	4668	4	.1
1250	360	10	3.11	31	35	40	45	49	6399	6478	6557	6276	6356	6437	5	.2
1250	400	10	3.02	24	28	32	35	39	6386	6442	6499	6262	6319	6378	5	.2
1250	440	10	2.95	19	22	25	28	31	6389	6431	6474	6266	6309	6352	5	.2
1250	480	10	2.89	14	17	19	22	24	6397	6428	6459	6274	6305	6337	5	.1
1250	520	10	2.83	10	12	14	17	19	6416	6439	6464	6293	6317	6342	5	.1
1250	560	10	2.78	8	9	11	13	15	6438	6456	6474	6316	6334	6353	5	.1
1250	360	15	2.28	25	29	34	38	43	4548	4588	4628	4373	4414	4456	4	.2
1250	400	15	2.22	19	22	26	30	33	4538	4567	4595	4363	4392	4422	4	.2
1250	440	15	2.17	13	16	19	22	25	4537	4558	4580	4362	4384	4406	4	.2
1250	480	15	2.13	9	12	14	17	19	4539	4554	4570	4363	4379	4395	4	.2
1250	520	15	2.09	5	7	10	12	14	4545	4557	4569	4370	4383	4395	4	.2
1250	560	15	2.05	3	5	6	8	10	4554	4563	4572	4379	4389	4398	3	.2
1500	360	15	2.64	27	31	36	41	45	5416	5462	5509	5204	5252	5301	4	.2
1500	400	15	2.57	20	24	28	32	35	5406	5439	5473	5193	5228	5263	4	.2
1500	440	15	2.52	15	18	21	24	27	5406	5431	5456	5194	5219	5245	4	.2
1500	480	15	2.46	11	14	16	19	21	5409	5427	5445	5197	5215	5234	4	.2
1500	520	15	2.41	7	9	11	13	15	5418	5432	5446	5206	5221	5236	4	.2
1500	560	15	2.37	5	7	8	10	12	5430	5440	5451	5219	5229	5240	4	.2
1750	360	15	3.02	29	34	38	43	47	6270	6322	6376	6021	6075	6131	5	.2
1750	400	15	2.95	22	26	30	34	37	6260	6298	6336	6011	6050	6090	5	.2
1750	440	15	2.88	17	20	23	26	29	6263	6291	6319	6013	6042	6072	5	.2
1750	480	15	2.81	13	15	18	20	23	6267	6288	6308	6018	6039	6061	5	.2
1750	520	15	2.76	9	11	13	15	17	6280	6296	6312	6031	6047	6064	5	.2
1750	560	15	2.71	7	8	10	12	13	6295	6306	6318	6046	6059	6071	5	.2
1500	360	20	2.14	23	27	31	36	40	4211	4238	4265	3934	3963	3992	4	.3
1500	400	20	2.09	16	20	24	27	31	4203	4223	4242	3927	3947	3968	4	.3
1500	440	20	2.04	11	14	17	20	23	4202	4217	4231	3926	3941	3956	3	.3
1500	480	20	2.00	7	10	12	15	17	4203	4214	4224	3926	3937	3949	3	.3
1500	520	20	1.96	4	6	8	10	12	4207	4216	4224	3931	3940	3948	3	.3
1500	560	20	1.93	2	3	5	6	8	4213	4219	4225	3937	3944	3950	3	.3
1750	360	20	2.41	24	29	33	37	42	4891	4922	4953	4567	4600	4634	4	.3
1750	400	20	2.35	18	21	25	29	32	4883	4906	4928	4559	4583	4607	4	.3
1750	440	20	2.30	13	16	19	22	25	4883	4899	4916	4559	4576	4594	4	.3
1750	480	20	2.25	9	11	14	16	19	4884	4896	4908	4560	4573	4586	4	.3
1750	520	20	2.21	5	7	9	11	13	4890	4899	4909	4566	4576	4586	4	.3
1750	560	20	2.17	3	5	6	8	9	4897	4904	4911	4574	4581	4589	4	.3
2000	360	20	2.69	26	30	34	39	43	5565	5600	5635	5194	5231	5268	5	.3
2000	400	20	2.63	19	23	27	30	34	5558	5583	5608	5186	5213	5240	4	.3
2000	440	20	2.57	14	17	20	23	26	5558	5577	5596	5186	5206	5226	4	.3
2000	480	20	2.51	10	13	15	17	20	5560	5574	5588	5188	5203	5217	4	.3
2000	520	20	2.46	6	8	10	12	14	5568	5578	5589	5196	5207	5219	4	.3
2000	560	20	2.42	4	6	7	9	10	5576	5584	5592	5205	5214	5222	4	.3
2000	360	30	2.01	18	22	26	30	34	3912	3927	3942	3362	3379	3397	3	.4
2000	400	30	1.97	12	16	19	22	25	3908	3919	3929	3357	3370	3382	3	.4
2000	440	30	1.92	8	10	13	16	19	3907	3915	3923	3357	3366	3375	3	.4
2000	480	30	1.89	4	6	8	11	13	3907	3913	3919	3357	3363	3370	3	.4
2000	520	30	1.85	1	2	4	6	8	3910	3914	3919	3359	3365	3370	3	.4
2000	560	30	1.82	-1	0	2	3	5	3913	3916	3919	3363	3367	3370	3	.4
2250	360	30	2.19	19	23	27	31	35	4393	4410	4426	3773	3792	3812	4	.4
2250	400	30	2.14	13	16	20	23	26	4389	4401	4413	3768	3782	3796	4	.4
2250	440	30	2.10	9	11	14	17	19	4388	4397	4406	3767	3778	3788	4	.4
2250	480	30	2.06	5	7	9	12	14	4388	4395	4401	3768	3775	3783	3	.4
2250	520	30	2.02	1	3	5	7	9	4391	4396	4401	3771	3777	3783	3	.4
2250	560	30	1.98	-1	1	2	4	5	4394	4398	4402	3775	3779	3783	3	.4
2500	360	30	2.38	20	24	28	32	36	4872	4891	4909	4182	4203	4225	4	.4
2500	400	30	2.33	14	17	21	24	27	4868	4881	4894	4177	4192	4208	4	.4
2500	440	30	2.28	9	12	15	18	20	4868	4877	4887	4177	4188	4199	4	.4
2500	480	30	2.23	6	8	10	12	15	4868	4875	4882	4177	4185	4194	4	.4
2500	520	30	2.19	2	4	6	8	10	4872	4877	4883	4181	4188	4194	4	.4
2500	560	30	2.14	-0	1	3	4	6	4875	4879	4883	4185	4190	4194	4	.4

Table 6-38. (Sheet 2)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH MK-1/MK-5 WARHEAD AND MK61 PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS												
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
2750	360	30	2.58	21	25	29	33	37	5350	5370	5390	4590	4613	4636	4	.4
2750	400	30	2.52	15	18	22	25	28	5346	5360	5375	4584	4601	4618	4	.4
2750	440	30	2.46	10	13	16	19	21	5346	5356	5367	4584	4597	4609	4	.4
2750	480	30	2.41	6	9	11	13	15	5347	5354	5362	4585	4594	4603	4	.4
2750	520	30	2.36	3	5	7	8	10	5351	5357	5363	4590	4597	4604	4	.4
2750	560	30	2.32	0	2	3	5	6	5354	5359	5363	4594	4599	4604	4	.4
3000	360	30	2.78	22	26	30	34	38	5827	5848	5869	4995	5020	5045	5	.4
3000	400	30	2.71	16	19	22	26	29	5822	5838	5853	4990	5008	5026	5	.4
3000	440	30	2.65	11	14	17	19	22	5822	5834	5845	4990	5003	5017	4	.4
3000	480	30	2.59	7	10	12	14	16	5824	5832	5840	4991	5001	5011	4	.4
3000	520	30	2.54	4	6	7	9	11	5829	5835	5842	4997	5005	5013	4	.4
3000	560	30	2.49	1	2	4	5	7	5832	5837	5842	5002	5007	5012	4	.4
3500	360	30	3.20	24	28	32	36	40	6774	6798	6823	5800	5828	5857	5	.4
3500	400	30	3.12	18	21	24	28	31	6770	6788	6805	5795	5816	5836	5	.4
3500	440	30	3.05	13	16	18	21	24	6771	6784	6797	5796	5811	5827	5	.4
3500	480	30	2.98	9	11	14	16	18	6773	6783	6792	5799	5810	5821	5	.4
3500	520	30	2.92	6	7	9	11	13	6780	6788	6795	5807	5816	5825	5	.4
3500	560	30	2.86	2	3	5	6	8	6784	6789	6794	5811	5817	5824	5	.4
4000	360	30	3.64	26	30	34	38	42	7713	7741	7768	6595	6627	6659	6	.4
4000	400	30	3.55	20	23	26	30	33	7710	7730	7750	6592	6615	6638	6	.4
4000	440	30	3.47	15	18	20	23	26	7713	7727	7742	6594	6611	6628	6	.4
4000	480	30	3.39	11	13	15	18	20	7717	7727	7738	6599	6612	6624	6	.4
4000	520	30	3.32	7	9	11	13	15	7726	7734	7743	6610	6620	6629	6	.4
4000	560	30	3.25	3	5	6	7	9	7729	7735	7741	6614	6621	6627	5	.4
4500	360	30	4.12	28	32	36	40	45	8644	8674	8705	7381	7416	7451	7	.4
4500	400	30	4.01	22	25	29	32	35	8643	8665	8686	7379	7405	7430	7	.4
4500	440	30	3.91	17	20	22	25	28	8647	8663	8679	7384	7402	7421	7	.4
4500	480	30	3.82	13	15	17	19	22	8653	8665	8676	7391	7405	7418	6	.4
4500	520	30	3.74	9	11	13	15	17	8665	8674	8683	7405	7416	7426	6	.4
4500	560	30	3.66	5	6	8	9	10	8669	8675	8682	7409	7417	7424	6	.4
5000	360	30	4.62	31	35	39	43	47	9566	9599	9631	8156	8194	8232	8	.4
5000	400	30	4.50	24	28	31	34	38	9567	9590	9614	8156	8184	8212	8	.4
5000	440	30	4.38	19	22	25	27	30	9573	9590	9607	8163	8183	8204	7	.4
5000	480	30	4.28	15	17	19	21	24	9582	9594	9607	8173	8188	8203	7	.4
5000	520	30	4.19	11	13	15	17	19	9596	9606	9616	8191	8202	8214	7	.4
5000	560	30	4.10	6	8	9	11	12	9601	9608	9615	8196	8204	8212	7	.4
4000	360	45	2.65	12	15	19	22	25	5584	5594	5604	3896	3910	3924	4	.5
4000	400	45	2.58	7	10	13	15	18	5582	5589	5596	3893	3903	3913	4	.5
4000	440	45	2.53	3	6	8	10	12	5582	5587	5592	3893	3900	3908	4	.5
4000	480	45	2.48	0	2	4	6	8	5582	5586	5590	3894	3899	3904	4	.5
4000	520	45	2.43	-2	-1	1	2	4	5585	5588	5591	3897	3901	3906	4	.5
4000	560	45	2.38	-6	-5	-3	-2	-1	5585	5587	5589	3897	3900	3903	4	.5
4500	360	45	2.93	13	16	20	23	26	6275	6286	6296	4373	4388	4404	5	.5
4500	400	45	2.87	8	11	14	16	19	6273	6281	6288	4370	4381	4392	5	.6
4500	440	45	2.80	4	7	9	11	13	6273	6278	6284	4370	4378	4386	5	.5
4500	480	45	2.74	1	3	5	7	8	6274	6278	6282	4371	4377	4383	5	.5
4500	520	45	2.69	-1	0	2	3	5	6277	6280	6283	4376	4381	4385	5	.5
4500	560	45	2.63	-5	-4	-3	-2	-0	6277	6279	6281	4376	4379	4382	4	.5
5000	360	45	3.23	14	18	21	24	28	6964	6976	6988	4847	4864	4881	5	.5
5000	400	45	3.16	9	12	15	17	20	6962	6971	6979	4845	4857	4869	5	.5
5000	440	45	3.09	5	8	10	12	14	6962	6969	6975	4845	4854	4863	5	.5
5000	480	45	3.02	2	4	6	8	9	6964	6968	6973	4847	4854	4860	5	.5
5000	520	45	2.96	-0	1	3	4	6	6968	6971	6975	4853	4858	4863	5	.5
5000	560	45	2.89	-5	-3	-2	-1	0	6967	6970	6972	4852	4856	4859	5	.5
5500	360	45	3.55	15	19	22	25	29	7651	7664	7677	5319	5337	5356	6	.5
5500	400	45	3.46	10	13	16	19	21	7650	7659	7668	5317	5330	5343	6	.5
5500	440	45	3.38	6	9	11	13	15	7650	7657	7664	5317	5327	5337	6	.5
5500	480	45	3.31	3	5	7	8	10	7652	7657	7662	5321	5328	5335	6	.5
5500	520	45	3.24	1	2	4	5	7	7657	7661	7665	5327	5333	5338	5	.5
5500	560	45	3.17	-4	-3	-1	-0	1	7657	7659	7662	5327	5331	5334	5	.5
6000	360	45	3.87	17	20	23	27	30	8336	8350	8364	5787	5807	5827	7	.5
6000	400	45	3.78	12	14	17	20	22	8335	8345	8355	5786	5800	5815	6	.6
6000	440	45	3.69	8	10	12	14	16	8336	8344	8351	5787	5798	5808	6	.5
6000	480	45	3.61	4	6	8	9	11	8339	8345	8350	5792	5799	5807	6	.5
6000	520	45	3.53	2	3	5	6	8	8345	8349	8353	5799	5805	5811	6	.5
6000	560	45	3.45	-3	-2	-0	1	2	8345	8348	8350	5799	5804	5808	6	.5

Table 6-38. (Sheet 3)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH MK-1/MK-5 WARHEAD AND MK61 PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS												
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
7000	360	45	4.56	19	23	26	29	33	9701	9716	9732	6716	6738	6761	8	.5
7000	400	45	4.45	14	17	19	22	25	9701	9712	9724	6716	6733	6749	8	.5
7000	440	45	4.34	10	12	14	16	19	9703	9711	9720	6719	6731	6743	7	.5
7000	480	45	4.24	6	8	10	12	13	9708	9714	9720	6726	6735	6744	7	.5
7000	520	45	4.14	3	5	6	8	9	9714	9718	9723	6735	6742	6748	7	.5
7000	560	45	4.05	-1	0	1	3	4	9716	9720	9723	6738	6743	6748	7	.5
8000	360	45	5.31	22	25	29	32	36	11056	11073	11090	7631	7656	7681	9	.6
8000	400	45	5.17	17	19	22	25	28	11058	11071	11083	7634	7652	7671	9	.6
8000	440	45	5.04	12	15	17	19	21	11062	11071	11080	7639	7652	7666	9	.5
8000	480	45	4.92	8	10	12	14	16	11069	11076	11083	7650	7660	7670	8	.5
8000	520	45	4.80	5	6	8	9	10	11075	11080	11085	7659	7666	7673	8	.5
8000	560	45	4.69	0	2	3	4	5	11080	11084	11087	7665	7671	7677	8	.5
6500	360	60	3.42	2	5	7	9	12	7459	7464	7469	3659	3669	3680	6	.7
6500	400	60	3.34	-1	1	3	4	6	7458	7462	7466	3657	3665	3672	6	.7
6500	440	60	3.26	-4	-2	-1	1	2	7458	7461	7464	3657	3663	3668	5	.5
6500	480	60	3.19	-6	-5	-4	-3	-1	7459	7461	7463	3659	3663	3667	5	.6
6500	520	60	3.12	-8	-7	-5	-4	-3	7461	7462	7464	3663	3666	3669	5	.5
6500	560	60	3.05	-12	-11	-10	-9	-8	7460	7461	7462	3661	3663	3665	5	.6
7000	360	60	3.67	3	5	8	10	12	8030	8035	8040	3934	3945	3956	6	.7
7000	400	60	3.59	-1	1	3	5	7	8029	8033	8037	3333	3941	3949	6	.7
7000	440	60	3.50	-3	-2	-0	1	3	8029	8032	8035	3933	3938	3944	6	.6
7000	480	60	3.42	-6	-5	-3	-2	-1	8030	8032	8034	3935	3939	3943	6	.5
7000	520	60	3.35	-7	-6	-5	-4	-3	8032	8033	8035	3938	3941	3944	6	.6
7000	560	60	3.28	-11	-10	-9	-9	-8	8031	8033	8034	3938	3940	3942	6	.6
7500	360	60	3.94	4	6	8	11	13	8600	8605	8611	4208	4219	4231	7	.7
7500	400	60	3.84	0	2	4	6	8	8599	8603	8608	4207	4215	4224	6	.7
7500	440	60	3.75	-3	-1	0	2	3	8599	8602	8605	4207	4213	4219	6	.5
7500	480	60	3.67	-5	-4	-3	-2	-0	8601	8603	8605	4210	4214	4219	6	.6
7500	520	60	3.59	-7	-6	-5	-4	-3	8602	8604	8605	4213	4216	4219	6	.5
7500	560	60	3.51	-11	-10	-9	-8	-7	8602	8604	8605	4213	4216	4218	6	.6
8000	360	60	4.21	4	7	9	11	14	9169	9175	9181	4480	4493	4505	7	.7
8000	400	60	4.11	1	3	5	6	8	9169	9173	9178	4480	4489	4498	7	.7
8000	440	60	4.01	-2	-1	1	2	4	9169	9172	9176	4481	4487	4493	7	.6
8000	480	60	3.92	-5	-4	-2	-1	0	9171	9173	9176	4484	4489	4494	7	.5
8000	520	60	3.83	-7	-6	-5	-4	-3	9172	9174	9176	4486	4490	4493	6	.5
8000	560	60	3.75	-11	-10	-9	-8	-8	9173	9174	9175	4487	4490	4493	6	.6
8500	360	60	4.50	5	7	10	12	14	9738	9745	9751	4752	4765	4778	8	.7
8500	400	60	4.38	1	3	5	7	9	9738	9743	9747	4752	4761	4771	7	.7
8500	440	60	4.27	-2	-0	1	3	5	9739	9742	9745	4753	4760	4766	7	.6
8500	480	60	4.17	-4	-3	-2	-0	1	9741	9743	9746	4758	4763	4768	7	.5
8500	520	60	4.08	-7	-6	-5	-4	-3	9742	9743	9745	4759	4763	4766	7	.6
8500	560	60	3.99	-11	-10	-9	-9	-8	9742	9744	9745	4760	4763	4766	7	.6
9000	360	60	4.78	6	8	10	13	15	10307	10313	10320	5022	5036	5050	8	.7
9000	400	60	4.66	2	4	6	8	10	10307	10312	10316	5023	5033	5043	8	.7
9000	440	60	4.55	-1	1	2	4	5	10307	10311	10314	5024	5031	5038	8	.7
9000	480	60	4.44	-3	-2	-1	0	2	10310	10313	10316	5030	5035	5041	7	.6
9000	520	60	4.34	-7	-6	-5	-4	-3	10311	10313	10314	5031	5035	5039	7	.6
9000	560	60	4.24	-11	-10	-9	-9	-8	10311	10313	10314	5032	5035	5038	7	.5
10000	360	60	5.39	7	10	12	14	17	11441	11449	11456	5559	5574	5589	9	.7
10000	400	60	5.25	3	5	7	9	11	11442	11447	11453	5561	5572	5582	9	.7
10000	440	60	5.11	0	2	3	5	7	11444	11447	11451	5564	5571	5579	9	.7
10000	480	60	4.99	-2	-1	1	2	3	11448	11451	11453	5572	5578	5584	8	.5
10000	520	60	4.87	-6	-5	-4	-3	-2	11448	11450	11452	5572	5576	5581	8	.6
10000	560	60	4.75	-11	-11	-10	-9	-8	11448	11450	11451	5573	5577	5580	8	.6
11000	360	60	6.02	9	11	14	16	19	12574	12582	12590	6091	6107	6123	10	.7
11000	400	60	5.86	5	7	9	11	13	12575	12581	12586	6094	6105	6117	10	.7
11000	440	60	5.71	2	3	5	6	8	12578	12582	12586	6099	6107	6115	10	.7
11000	480	60	5.57	-0	1	2	3	5	12583	12586	12589	6110	6116	6122	9	.7
11000	520	60	5.43	-5	-4	-3	-2	-1	12583	12585	12587	6110	6114	6119	9	.6
11000	560	60	5.30	-11	-11	-10	-9	-8	12583	12585	12587	6110	6114	6117	9	.6
12000	360	60	6.68	11	13	15	18	20	13704	13712	13720	6617	6634	6652	11	.7
12000	400	60	6.50	7	9	10	12	14	13706	13712	13717	6622	6634	6646	11	.7
12000	440	60	6.33	3	5	6	8	9	13709	13713	13718	6629	6638	6646	11	.7
12000	480	60	6.17	0	2	3	4	5	13714	13717	13721	6639	6646	6652	10	.7
12000	520	60	6.01	-4	-3	-2	-1	0	13716	13718	13721	6643	6648	6652	10	.6
12000	560	60	5.86	-11	-11	-10	-9	-8	13716	13718	13720	6642	6646	6650	10	.6

Table 6-38. (Sheet 4)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH MK-1/MK-5 WARHEAD AND MK61 PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
900	360	10	2.30	26	30	35	40	44	4736	4794	4853	4649	4708	4769	4	.2
900	400	10	2.24	19	23	26	30	34	4724	4765	4807	4637	4679	4722	4	.2
900	440	10	2.18	14	17	20	23	26	4721	4751	4781	4634	4665	4696	4	.1
900	480	10	2.14	9	12	14	17	19	4726	4748	4771	4639	4662	4685	4	.1
900	520	10	2.10	6	8	10	12	14	4739	4756	4773	4653	4670	4688	4	.1
900	560	10	2.05	0	2	4	5	7	4737	4750	4762	4651	4663	4676	3	.1
1250	360	10	2.99	29	34	39	44	48	6439	6514	6590	6316	6393	6471	5	.1
1250	400	10	2.91	23	26	30	34	38	6429	6483	6537	6306	6361	6417	5	.1
1250	440	10	2.84	17	20	23	26	30	6429	6468	6508	6306	6346	6386	5	.1
1250	480	10	2.78	12	15	17	20	23	6440	6470	6499	6318	6348	6378	5	.1
1250	520	10	2.73	9	11	13	15	17	6462	6484	6506	6340	6363	6385	5	.1
1250	560	10	2.67	4	5	7	9	10	6464	6480	6496	6342	6358	6375	5	.1
1250	360	15	2.22	24	29	33	38	42	4561	4599	4637	4387	4425	4465	4	.2
1250	400	15	2.16	18	21	25	29	32	4553	4580	4607	4378	4406	4435	4	.2
1250	440	15	2.11	12	15	18	21	24	4551	4570	4590	4376	4396	4416	4	.2
1250	480	15	2.07	8	10	13	15	18	4554	4569	4583	4379	4394	4409	3	.2
1250	520	15	2.03	5	7	9	11	13	4563	4574	4585	4388	4399	4411	3	.2
1250	560	15	1.99	-1	1	3	4	6	4561	4569	4577	4387	4395	4403	3	.2
1500	360	15	2.55	26	31	35	40	44	5434	5478	5522	5223	5269	5315	4	.2
1500	400	15	2.49	19	23	27	30	34	5426	5458	5490	5215	5248	5281	4	.2
1500	440	15	2.43	14	17	20	23	26	5425	5447	5470	5213	5237	5261	4	.2
1500	480	15	2.38	9	12	14	17	19	5430	5447	5464	5218	5236	5254	4	.2
1500	520	15	2.33	6	8	10	12	14	5441	5453	5466	5230	5243	5256	4	.2
1500	560	15	2.29	1	3	4	6	8	5441	5450	5459	5230	5240	5249	4	.2
1750	360	15	2.91	28	32	37	42	46	6295	6345	6396	6047	6099	6152	5	.2
1750	400	15	2.83	21	25	29	32	36	6288	6324	6361	6040	6077	6115	5	.2
1750	440	15	2.77	16	19	22	25	28	6288	6314	6340	6039	6066	6094	5	.2
1750	480	15	2.71	11	14	16	18	21	6295	6315	6335	6047	6068	6088	5	.2
1750	520	15	2.65	8	10	12	14	16	6308	6323	6337	6061	6076	6091	4	.2
1750	560	15	2.60	2	4	6	7	9	6311	6322	6332	6063	6075	6086	4	.2
1500	360	20	2.08	22	26	31	35	40	4219	4244	4270	3943	3970	3998	3	.3
1500	400	20	2.03	16	19	23	26	30	4213	4231	4250	3937	3956	3976	3	.3
1500	440	20	1.99	10	13	16	19	22	4211	4224	4237	3935	3949	3963	3	.3
1500	480	20	1.94	6	8	11	13	16	4213	4223	4233	3937	3947	3958	3	.3
1500	520	20	1.91	3	5	7	9	11	4218	4226	4233	3943	3951	3958	3	.3
1500	560	20	1.87	-2	-0	1	3	4	4217	4223	4228	3942	3947	3953	3	.3
1750	360	20	2.33	23	28	32	37	41	4902	4931	4960	4578	4610	4641	4	.3
1750	400	20	2.28	17	20	24	28	31	4896	4917	4938	4572	4595	4617	4	.3
1750	440	20	2.23	12	15	18	21	24	4894	4909	4924	4570	4587	4603	4	.3
1750	480	20	2.18	7	10	12	14	17	4897	4908	4920	4574	4586	4598	4	.3
1750	520	20	2.14	4	6	8	10	12	4903	4912	4920	4580	4589	4598	4	.3
1750	560	20	2.10	-1	1	2	4	6	4903	4909	4916	4580	4587	4594	4	.3
2000	360	20	2.60	25	29	34	38	43	5579	5612	5645	5209	5244	5279	4	.3
2000	400	20	2.53	18	22	25	29	33	5574	5598	5621	5203	5228	5254	4	.3
2000	440	20	2.48	13	16	19	22	25	5573	5590	5607	5201	5219	5238	4	.3
2000	480	20	2.42	8	11	13	16	18	5577	5590	5603	5206	5220	5233	4	.3
2000	520	20	2.38	5	7	9	11	13	5584	5593	5603	5213	5223	5233	4	.3
2000	560	20	2.33	0	2	3	5	7	5585	5592	5599	5215	5222	5230	4	.3
2000	360	30	1.96	17	21	25	30	34	3916	3930	3944	3367	3383	3399	3	.4
2000	400	30	1.91	11	15	18	21	25	3913	3923	3933	3363	3375	3387	3	.4
2000	440	30	1.87	7	10	12	15	18	3911	3919	3926	3362	3370	3378	3	.4
2000	480	30	1.84	3	5	7	9	12	3913	3918	3923	3363	3369	3375	3	.4
2000	520	30	1.80	-0	2	3	5	7	3915	3919	3923	3365	3370	3375	3	.4
2000	560	30	1.77	-5	-3	-2	-0	1	3915	3918	3921	3365	3369	3372	3	.4
2250	360	30	2.13	18	22	26	30	35	4398	4414	4429	3779	3797	3815	4	.4
2250	400	30	2.08	12	16	19	22	26	4395	4406	4417	3775	3788	3801	4	.4
2250	440	30	2.04	8	10	13	16	18	4393	4401	4409	3773	3783	3792	3	.4
2250	480	30	2.00	3	6	8	10	12	4395	4401	4407	3775	3782	3789	3	.4
2250	520	30	1.96	0	2	4	6	7	4397	4402	4406	3778	3783	3788	3	.4
2250	560	30	1.92	-4	-3	-1	0	2	4397	4401	4404	3778	3782	3786	3	.4
2500	360	30	2.31	19	23	27	31	35	4879	4896	4913	4189	4209	4229	4	.4
2500	400	30	2.26	13	16	20	23	26	4875	4888	4900	4185	4200	4214	4	.4
2500	440	30	2.21	8	11	14	17	19	4874	4883	4892	4184	4194	4204	4	.4
2500	480	30	2.16	4	6	9	11	13	4876	4883	4889	4186	4194	4202	4	.4
2500	520	30	2.12	1	3	4	6	8	4878	4883	4888	4189	4195	4200	4	.4
2500	560	30	2.07	-3	-2	-0	1	3	4879	4883	4887	4190	4194	4199	4	.4

Table 6-38. (Sheet 5)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH MK-1/MK-5 WARHEAD AND MK61 PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS: SIGHT SETTING - MILS (NEG SETTING INDICATES ELEV) 12.0	14.0	16.0	18.0	20.0	SLANT RANGE - FEET 12.0	16.0	20.0	HORIZONTAL RANGE - FT 12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
2750	360	30	2.49	20	24	28	32	36	5358	5376	5395	4598	4620	4641	4	.4
2750	400	30	2.43	14	17	21	24	27	5354	5368	5381	4594	4610	4626	4	.4
2750	440	30	2.38	9	12	15	17	20	5353	5363	5372	4593	4604	4615	4	.4
2750	480	30	2.33	5	7	9	12	14	5356	5363	5370	4596	4604	4613	4	.4
2750	520	30	2.28	1	3	5	6	8	5358	5363	5369	4599	4605	4611	4	.4
2750	560	30	2.23	-3	-2	-0	1	3	5360	5364	5368	4600	4605	4610	4	.4
3000	360	30	2.68	21	25	29	33	37	5836	5856	5876	5005	5029	5052	5	.4
3000	400	30	2.61	15	18	21	25	28	5832	5847	5862	5002	5019	5036	4	.4
3000	440	30	2.55	10	13	15	18	21	5831	5842	5852	5000	5013	5025	4	.4
3000	480	30	2.50	6	8	10	12	15	5835	5843	5850	5004	5014	5023	4	.4
3000	520	30	2.45	2	3	5	7	9	5837	5842	5848	5007	5013	5020	4	.4
3000	560	30	2.40	-3	-1	0	2	3	5839	5843	5848	5009	5014	5019	4	.4
3500	360	30	3.06	23	27	31	35	39	6787	6810	6833	5815	5841	5868	5	.4
3500	400	30	2.99	17	20	23	27	30	6784	6801	6817	5811	5831	5850	5	.4
3500	440	30	2.92	12	14	17	20	22	6783	6795	6807	5811	5825	5838	5	.4
3500	480	30	2.85	7	10	12	14	16	6789	6798	6807	5817	5827	5838	5	.4
3500	520	30	2.79	3	4	6	8	10	6790	6797	6803	5819	5826	5834	5	.4
3500	560	30	2.74	-2	-0	1	2	4	6793	6798	6804	5822	5828	5834	5	.4
4000	360	30	3.46	24	29	33	37	41	7731	7757	7783	6616	6646	6677	5	.4
4000	400	30	3.38	18	22	25	28	32	7729	7748	7767	6614	6636	6658	6	.4
4000	440	30	3.30	13	16	19	21	24	7730	7743	7756	6614	6630	6645	5	.4
4000	480	30	3.23	9	11	13	16	18	7737	7747	7757	6623	6635	6647	5	.4
4000	520	30	3.15	4	6	7	9	11	7739	7746	7753	6625	6634	6642	5	.4
4000	560	30	3.09	-1	0	2	3	5	7743	7749	7754	6530	6636	6643	5	.3
4500	360	30	3.89	26	31	35	39	43	8669	8698	8726	7410	7443	7477	7	.4
4500	400	30	3.79	20	23	27	30	33	8668	8689	8709	7409	7433	7457	6	.4
4500	440	30	3.70	15	18	20	23	26	8670	8684	8699	7411	7428	7445	6	.4
4500	480	30	3.61	11	13	15	17	19	8680	8691	8702	7422	7435	7449	6	.4
4500	520	30	3.53	5	7	9	11	12	8682	8690	8698	7425	7434	7443	6	.4
4500	560	30	3.46	-0	1	3	4	5	8687	8693	8699	7431	7438	7445	6	.3
5000	360	30	4.33	28	33	37	41	45	9600	9631	9662	8195	8231	8268	7	.4
5000	400	30	4.21	22	25	29	32	35	9600	9622	9645	8195	8221	8247	7	.4
5000	440	30	4.11	17	19	22	25	28	9604	9619	9635	8199	8218	8236	7	.4
5000	480	30	4.02	13	15	17	19	21	9617	9629	9641	8215	8229	8243	7	.4
5000	520	30	3.93	7	9	10	12	14	9619	9628	9636	8218	8228	8238	7	.4
5000	560	30	3.84	0	2	3	5	6	9625	9632	9639	8224	8232	8240	6	.4
4000	360	45	2.55	11	15	18	21	25	5588	5597	5606	3902	3915	3928	4	.5
4000	400	45	2.49	6	9	12	15	17	5586	5593	5599	3899	3909	3918	4	.5
4000	440	45	2.44	2	5	7	9	11	5585	5590	5595	3898	3905	3912	4	.5
4000	480	45	2.39	-1	1	3	5	6	5587	5591	5594	3901	3906	3911	4	.5
4000	520	45	2.34	-5	-4	-2	-1	1	5587	5589	5592	3900	3904	3908	4	.5
4000	560	45	2.29	-10	-8	-7	-6	-5	5587	5589	5591	3901	3904	3906	4	.5
4500	360	45	2.82	12	16	19	22	26	6280	6290	6300	4380	4395	4409	5	.5
4500	400	45	2.75	7	10	13	16	18	6278	6285	6293	4378	4388	4399	5	.5
4500	440	45	2.69	3	6	8	10	12	6277	6283	6288	4377	4384	4392	5	.5
4500	480	45	2.63	0	2	4	6	7	6280	6284	6288	4381	4386	4392	4	.5
4500	520	45	2.58	-4	-3	-2	-0	1	6279	6282	6285	4380	4384	4388	4	.5
4500	560	45	2.52	-9	-8	-7	-6	-5	6280	6282	6284	4380	4383	4386	4	.5
5000	360	45	3.09	13	17	20	23	27	6970	6981	6993	4856	4872	4888	5	.5
5000	400	45	3.02	8	11	14	16	19	6969	6977	6985	4854	4866	4877	5	.5
5000	440	45	2.95	4	6	9	11	13	6968	6974	6980	4854	4862	4870	5	.5
5000	480	45	2.89	1	3	5	6	8	6972	6976	6980	4859	4865	4871	5	.5
5000	520	45	2.82	-4	-2	-1	1	2	6971	6974	6977	4857	4861	4866	5	.5
5000	560	45	2.77	-9	-8	-7	-6	-5	6971	6973	6976	4857	4861	4864	5	.5
5500	360	45	3.38	14	18	21	24	28	7659	7671	7684	5331	5348	5365	6	.5
5500	400	45	3.29	9	12	15	17	20	7658	7666	7675	5328	5341	5353	6	.5
5500	440	45	3.22	5	7	9	12	14	7658	7664	7670	5329	5337	5346	5	.5
5500	480	45	3.15	2	4	6	7	9	7662	7667	7672	5335	5341	5348	5	.5
5500	520	45	3.08	-3	-1	-0	1	3	7661	7664	7668	5333	5338	5343	5	.5
5500	560	45	3.01	-9	-8	-7	-6	-5	7661	7664	7666	5333	5337	5341	5	.5
6000	360	45	3.67	15	19	22	25	29	8347	8360	8373	5802	5821	5840	6	.5
6000	400	45	3.58	10	13	16	18	21	8345	8355	8364	5801	5814	5827	6	.5
6000	440	45	3.49	6	8	10	13	15	8346	8353	8359	5802	5811	5821	6	.5
6000	480	45	3.42	3	5	7	8	10	8351	8356	8361	5809	5816	5823	6	.5
6000	520	45	3.34	-2	-1	1	2	4	8350	8354	8357	5807	5812	5818	6	.5
6000	560	45	3.27	-9	-8	-7	-5	-4	8350	8353	8356	5807	5811	5815	6	.5

Table 6-38. (Sheet 6)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH MK-1/MK-5 WARHEAD AND MK61 PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
7000	360	45	4.28	17	21	24	28	31	9717	9731	9746	6739	6760	6782	7	.5
7000	400	45	4.17	12	15	18	20	23	9716	9726	9737	6738	6753	6768	7	.5
7000	440	45	4.07	8	10	12	14	17	9718	9726	9733	6741	6752	6763	7	.5
7000	480	45	3.97	4	6	8	9	11	9723	9729	9734	6748	6756	6764	7	.5
7000	520	45	3.88	-0	1	2	4	5	9724	9728	9732	6750	6756	6762	7	.5
7000	560	45	3.80	-9	-7	-6	-5	-3	9724	9727	9731	6749	6754	6759	6	.5
8000	360	45	4.92	20	23	27	30	33	11079	11096	11112	7665	7689	7713	8	.5
8000	400	45	4.79	14	17	20	23	25	11080	11091	11103	7666	7682	7699	8	.5
8000	440	45	4.68	10	12	14	16	19	11084	11093	11101	7672	7684	7696	8	.5
8000	480	45	4.56	5	7	8	10	12	11088	11094	11101	7578	7687	7696	8	.5
8000	520	45	4.46	0	1	3	4	6	11091	11096	11100	7582	7689	7695	8	.5
8000	560	45	4.36	-8	-7	-5	-4	-3	11092	11096	11100	7583	7689	7695	7	.5
6500	360	60	3.26	1	4	6	9	11	7462	7467	7472	3665	3675	3684	5	.5
6500	400	60	3.18	-2	-0	2	4	6	7461	7465	7468	3663	3670	3677	5	.6
6500	440	60	3.11	-5	-3	-2	-0	1	7461	7464	7466	3663	3668	3673	5	.6
6500	480	60	3.04	-7	-6	-4	-3	-2	7463	7464	7466	3666	3670	3674	5	.5
7000	360	60	3.49	2	4	7	9	12	8033	8038	8044	3341	3952	3962	6	.5
7000	400	60	3.41	-2	0	2	4	6	8032	8036	8040	3939	3947	3954	6	.6
7000	440	60	3.33	-5	-3	-1	0	2	8033	8035	8038	3940	3945	3950	6	.5
7000	480	60	3.25	-7	-6	-4	-3	-2	8034	8036	8038	3943	3946	3950	5	.5
7000	520	60	3.18	-11	-10	-9	-8	-7	8033	8035	8036	3941	3944	3947	5	.5
7000	560	60	3.11	-18	-17	-16	-15	-14	8031	8033	8034	3938	3940	3943	5	.6
7500	360	60	3.73	3	5	7	10	12	8604	8610	8615	4217	4228	+239	6	.5
7500	400	60	3.64	-1	1	3	5	7	8603	8607	8611	4215	4223	4231	6	.6
7500	440	60	3.55	-4	-3	-1	1	2	8604	8606	8609	4216	4221	4227	6	.5
7500	480	60	3.47	-7	-6	-4	-3	-2	8605	8607	8609	4218	4222	4226	6	.5
7500	520	60	3.39	-11	-10	-9	-8	-7	8604	8606	8607	4217	4220	4223	6	.5
7500	560	60	3.32	-18	-17	-16	-15	-15	8602	8604	8605	4213	4216	4219	6	.5
8000	360	60	3.97	3	6	8	10	13	9174	9180	9186	4491	4503	4515	7	.6
8000	400	60	3.87	-0	1	3	5	7	9174	9178	9182	4490	4498	4506	7	.5
8000	440	60	3.78	-4	-2	-0	1	3	9174	9177	9180	4491	4497	4503	6	.6
8000	480	60	3.69	-7	-6	-5	-3	-2	9175	9177	9179	4492	4497	4501	6	.5
8000	520	60	3.61	-11	-10	-9	-8	-7	9175	9176	9178	4492	4495	4498	5	.6
8000	560	60	3.53	-18	-17	-17	-16	-15	9173	9174	9176	4488	4491	4494	6	.6
8500	360	60	4.22	4	6	9	11	13	9744	9750	9756	4765	4777	4789	7	.5
8500	400	60	4.11	0	2	4	6	8	9744	9748	9752	4763	4772	4781	7	.5
8500	440	60	4.01	-3	-1	0	2	3	9745	9748	9751	4766	4772	4778	7	.5
8500	480	60	3.92	-7	-6	-4	-3	-2	9745	9747	9750	4766	4771	4775	7	.6
8500	520	60	3.83	-11	-10	-9	-8	-7	9745	9747	9748	4766	4769	4773	6	.5
8500	560	60	3.74	-19	-18	-17	-16	-15	9743	9745	9746	4762	4766	4769	6	.5
9000	360	60	4.47	4	7	9	12	14	10314	10320	10327	5037	5050	5063	8	.6
9000	400	60	4.36	1	3	4	6	8	10313	10318	10322	5036	5045	5054	7	.5
9000	440	60	4.25	-2	-1	1	2	4	10315	10318	10321	5040	5046	5053	7	.6
9000	480	60	4.15	-6	-5	-4	-3	-2	10315	10317	10320	5040	5045	5049	7	.5
9000	520	60	4.05	-12	-10	-9	-8	-7	10315	10316	10318	5039	5043	5046	7	.5
9000	560	60	3.96	-19	-18	-17	-16	-15	10313	10315	10317	5036	5040	5043	7	.6
10000	360	60	4.99	6	8	11	13	15	11451	11458	11465	5580	5594	5608	8	.6
10000	400	60	4.86	2	4	6	8	9	11451	11456	11461	5579	5589	5599	8	.6
10000	440	60	4.74	-1	1	2	4	5	11454	11458	11461	5585	5592	5600	8	.5
10000	480	60	4.62	-6	-4	-3	-2	-1	11454	11456	11459	5584	5590	5595	8	.6
10000	520	60	4.52	-12	-11	-10	-9	-8	11453	11455	11457	5583	5587	5591	8	.6
10000	560	60	4.41	-18	-17	-16	-15	-14	11452	11454	11456	5582	5586	5590	7	.6
11000	360	60	5.53	7	9	12	14	17	12587	12594	12602	6118	6133	6148	9	.6
11000	400	60	5.38	3	5	7	9	11	12587	12592	12597	6118	6129	6139	9	.5
11000	440	60	5.25	0	2	3	5	6	12592	12595	12599	6128	6135	6143	9	.6
11000	480	60	5.12	-5	-3	-2	-1	0	12591	12594	12596	6126	6132	6137	9	.6
11000	520	60	4.99	-12	-11	-10	-9	-8	12589	12592	12594	6123	6128	6132	8	.6
11000	560	60	4.88	-18	-17	-16	-15	-14	12590	12592	12594	6124	6129	6133	8	.6
12000	360	60	6.09	8	11	13	16	18	13720	13728	13736	6652	6668	6684	10	.7
12000	400	60	5.92	4	6	8	10	12	13721	13727	13732	6654	6665	6676	10	.6
12000	440	60	5.77	1	2	4	5	6	13726	13730	13733	6663	6671	6679	10	.6
12000	480	60	5.62	-4	-3	-2	-1	1	13726	13728	13731	6663	6669	6674	9	.6
12000	520	60	5.48	-12	-11	-10	-9	-8	13724	13727	13729	6660	6665	6670	9	.6
12000	560	60	5.35	-17	-16	-15	-14	-13	13726	13729	13731	6664	6669	6674	9	.6

Table 6-38. (Sheet 7)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH MK-1/MK-5 WARHEAD AND MK61 PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS: 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
900	360	10	2.24	25	29	34	39	44	4756	4811	4867	4670	4726	4783	4	.1
900	400	10	2.18	18	22	25	29	33	4744	4783	4822	4658	4697	4738	4	.1
900	440	10	2.12	12	15	18	21	25	4741	4768	4796	4654	4683	4711	4	.1
900	480	10	2.08	8	11	13	15	18	4753	4774	4795	4667	4689	4710	4	.1
900	520	10	2.03	2	4	6	8	10	4748	4763	4778	4662	4677	4692	3	.1
900	560	10	1.99	-5	-4	-2	-0	1	4748	4760	4772	4662	4674	4687	3	.1
1250	360	10	2.89	28	33	38	43	47	6476	6548	6621	6355	6427	6502	5	.1
1250	400	10	2.81	21	25	29	33	37	6465	6516	6567	6343	6395	6447	5	.1
1250	440	10	2.74	15	19	22	25	28	6466	6502	6539	6344	6381	6418	5	.1
1250	480	10	2.68	11	14	16	18	21	6486	6513	6540	6364	6392	6420	5	.1
1250	520	10	2.62	5	7	9	11	13	6483	6502	6522	6361	6381	6401	4	.1
1250	560	10	2.57	-3	-1	1	2	4	6485	6501	6518	6363	6380	6397	4	.1
1250	360	15	2.16	23	28	32	37	42	4574	4609	4645	4400	4437	4474	4	.2
1250	400	15	2.10	16	20	24	28	31	4566	4591	4616	4391	4417	4444	4	.2
1250	440	15	2.05	11	14	17	20	23	4564	4582	4600	4389	4408	4427	3	.2
1250	480	15	2.01	7	9	12	14	16	4571	4585	4598	4397	4411	4425	3	.2
1250	520	15	1.97	1	3	5	7	9	4568	4577	4587	4393	4403	4413	3	.2
1250	560	15	1.93	-7	-5	-3	-2	-0	4567	4575	4583	4392	4401	4409	3	.2
1500	360	15	2.48	25	30	34	39	44	5452	5494	5536	5242	5285	5329	4	.2
1500	400	15	2.41	18	22	26	29	33	5443	5473	5503	5233	5263	5294	4	.2
1500	440	15	2.36	13	16	19	22	25	5442	5463	5485	5232	5254	5276	4	.2
1500	480	15	2.31	8	11	13	15	18	5451	5467	5483	5241	5257	5274	4	.2
1500	520	15	2.26	3	5	7	9	11	5449	5461	5472	5239	5250	5262	4	.2
1500	560	15	2.21	-6	-4	-2	-0	1	5448	5458	5468	5238	5248	5258	4	.2
1750	360	15	2.81	27	31	36	41	45	6320	6367	6415	6073	6122	6172	5	.2
1750	400	15	2.73	20	24	27	31	35	6311	6345	6379	6064	6099	6134	5	.2
1750	440	15	2.67	14	17	20	23	26	6312	6336	6360	6064	6089	6115	5	.2
1750	480	15	2.61	10	12	14	17	19	6322	6340	6358	6075	6094	6112	4	.2
1750	520	15	2.55	4	6	8	10	12	6322	6335	6348	6075	6089	6102	4	.2
1750	560	15	2.50	-4	-3	-1	1	2	6322	6333	6344	6075	6087	6098	4	.2
1500	360	20	2.03	21	26	30	35	39	4227	4251	4275	3952	3977	4003	3	.3
1500	400	20	1.98	15	18	22	25	29	4221	4238	4255	3945	3963	3982	3	.3
1500	440	20	1.93	9	12	15	18	21	4219	4231	4244	3944	3957	3970	3	.3
1500	480	20	1.89	5	7	10	12	14	4224	4233	4242	3948	3958	3968	3	.3
1500	520	20	1.85	-0	2	3	5	7	4221	4228	4234	3946	3953	3960	3	.3
1500	560	20	1.82	-8	-7	-5	-3	-2	4220	4225	4231	3944	3950	3956	3	.3
1750	360	20	2.27	22	27	31	36	40	4912	4940	4968	4590	4619	4649	4	.3
1750	400	20	2.21	16	19	23	27	30	4906	4925	4945	4583	4604	4625	4	.3
1750	440	20	2.16	10	13	16	19	22	4905	4919	4933	4582	4597	4612	4	.3
1750	480	20	2.12	6	8	11	13	15	4910	4920	4930	4587	4598	4609	4	.3
1750	520	20	2.07	1	3	5	7	8	4908	4916	4923	4586	4594	4602	3	.3
1750	560	20	2.03	-8	-6	-4	-3	-1	4907	4913	4920	4584	4591	4598	3	.3
2000	360	20	2.52	24	28	33	37	42	5593	5624	5656	5224	5257	5290	4	.3
2000	400	20	2.45	17	21	24	28	31	5587	5609	5631	5217	5240	5264	4	.3
2000	440	20	2.40	11	14	17	20	23	5586	5602	5618	5216	5233	5250	4	.3
2000	480	20	2.35	7	9	11	14	16	5592	5603	5615	5222	5234	5247	4	.3
2000	520	20	2.30	2	4	6	8	9	5591	5600	5608	5222	5231	5240	4	.2
2000	560	20	2.25	-7	-5	-3	-2	0	5590	5597	5605	5220	5228	5236	4	.2
2000	360	30	1.91	17	21	25	29	33	3920	3934	3947	3372	3387	3402	3	.4
2000	400	30	1.87	11	14	17	21	24	3917	3926	3935	3368	3378	3389	3	.4
2000	440	30	1.83	6	8	11	14	16	3916	3923	3929	3367	3374	3382	3	.4
2000	480	30	1.79	2	4	6	8	10	3917	3922	3927	3369	3374	3380	3	.4
2000	520	30	1.75	-3	-2	0	2	4	3917	3920	3924	3367	3372	3376	3	.4
2000	560	30	1.72	-11	-10	-8	-7	-5	3915	3918	3921	3365	3369	3373	3	.4
2250	360	30	2.08	17	22	26	30	34	4403	4418	4433	3785	3802	3819	4	.4
2250	400	30	2.03	11	15	18	21	25	4399	4410	4420	3781	3793	3805	3	.4
2250	440	30	1.98	6	9	12	14	17	4399	4406	4414	3780	3788	3797	3	.4
2250	480	30	1.94	2	4	6	8	10	4400	4406	4411	3781	3788	3794	3	.4
2250	520	30	1.90	-3	-1	1	2	4	4399	4403	4407	3781	3785	3790	3	.4
2250	560	30	1.86	-11	-9	-8	-6	-5	4398	4401	4405	3779	3783	3787	3	.4
2500	360	30	2.24	18	22	27	31	35	4885	4901	4917	4197	4215	4234	4	.4
2500	400	30	2.19	12	15	19	22	25	4881	4892	4904	4192	4205	4218	4	.4
2500	440	30	2.14	7	10	12	15	18	4880	4889	4897	4191	4201	4211	4	.4
2500	480	30	2.10	2	4	7	9	11	4882	4888	4894	4193	4200	4207	4	.4
2500	520	30	2.05	-3	-1	1	3	4	4881	4886	4890	4192	4198	4203	3	.4
2500	560	30	2.01	-11	-9	-7	-6	-4	4880	4884	4888	4191	4195	4200	3	.4

Table 6-38. (Sheet 8)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH MK-1/MK-5 WARHEAD AND MK61 PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS: 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
2750	360	30	2.41	19	23	27	32	36	5365	5383	5401	4607	4627	4648	4	.4
2750	400	30	2.36	13	16	20	23	26	5361	5374	5386	4602	4616	4631	4	.4
2750	440	30	2.30	8	10	13	16	18	5361	5370	5379	4602	4613	4623	4	.4
2750	480	30	2.25	3	5	7	9	11	5362	5369	5375	4604	4611	4618	4	.4
2750	520	30	2.21	-2	-1	1	3	5	5362	5367	5372	4603	4609	4614	4	.4
2750	560	30	2.16	-10	-9	-7	-5	-4	5361	5365	5370	4602	4607	4612	4	.4
3000	360	30	2.59	20	24	28	32	36	5845	5864	5883	5016	5038	5060	4	.4
3000	400	30	2.52	14	17	20	24	27	5840	5854	5867	5011	5026	5042	4	.4
3000	440	30	2.47	9	11	14	17	19	5841	5850	5860	5011	5023	5034	4	.4
3000	480	30	2.41	3	5	7	9	12	5842	5849	5856	5013	5021	5029	4	.4
3000	520	30	2.36	-2	-0	2	3	5	5842	5847	5852	5013	5019	5025	4	.4
3000	560	30	2.31	-10	-8	-7	-5	-3	5841	5846	5851	5011	5017	5023	4	.3
3500	360	30	2.94	21	26	30	34	38	6799	6821	6843	5829	5854	5880	5	.4
3500	400	30	2.87	15	18	22	25	28	6795	6810	6825	5824	5842	5859	5	.4
3500	440	30	2.80	10	13	15	18	21	6797	6808	6819	5826	5839	5852	5	.4
3500	480	30	2.74	4	6	8	10	13	6797	6805	6813	5827	5836	5845	5	.4
3500	520	30	2.68	-1	0	2	4	6	6798	6804	6810	5828	5835	5842	5	.3
3500	560	30	2.63	-9	-7	-6	-4	-2	6798	6803	6809	5827	5834	5841	4	.3
4000	360	30	3.31	23	27	31	36	40	7748	7772	7797	6636	6664	6693	6	.4
4000	400	30	3.23	17	20	23	27	30	7744	7761	7778	6631	6651	6671	5	.4
4000	440	30	3.15	12	14	17	19	22	7748	7760	7773	6635	6650	6664	5	.4
4000	480	30	3.08	6	8	10	12	14	7748	7757	7766	6636	6646	6656	5	.3
4000	520	30	3.01	-1	1	3	5	6	7749	7756	7763	6637	6645	6653	5	.3
4000	560	30	2.95	-8	-6	-5	-3	-1	7750	7757	7764	6638	6646	6654	5	.3
4500	360	30	3.70	25	29	33	37	42	8691	8718	8745	7435	7467	7499	6	.4
4500	400	30	3.60	18	22	25	28	32	8688	8706	8725	7431	7453	7475	6	.4
4500	440	30	3.52	13	16	18	21	24	8694	8707	8721	7438	7454	7471	6	.4
4500	480	30	3.43	7	9	11	13	15	8694	8704	8714	7439	7450	7462	6	.3
4500	520	30	3.36	-0	2	3	5	7	8696	8703	8711	7441	7450	7458	6	.3
4500	560	30	3.29	-7	-5	-4	-2	-0	8699	8706	8714	7445	7453	7462	6	.3
5000	360	30	4.09	27	31	35	39	43	9628	9657	9687	8228	8262	8297	7	.4
5000	400	30	3.98	20	23	26	30	33	9626	9646	9666	8225	8249	8273	7	.4
5000	440	30	3.89	15	17	20	23	25	9634	9649	9664	8235	8253	8270	7	.4
5000	480	30	3.80	8	10	12	14	17	9636	9646	9657	8237	8249	8261	6	.3
5000	520	30	3.71	1	2	4	6	8	9637	9645	9654	8239	8248	8258	6	.3
5000	560	30	3.63	-6	-4	-2	-1	1	9643	9651	9660	8245	8255	8265	6	.3
4000	360	45	2.47	11	14	17	21	24	5592	5600	5609	3907	3920	3932	4	.5
4000	400	45	2.41	5	8	11	14	16	5589	5595	5601	3904	3912	3921	4	.5
4000	440	45	2.36	2	4	6	8	10	5590	5594	5599	3905	3911	3917	4	.5
4000	480	45	2.31	-4	-2	-0	1	3	5589	5592	5595	3904	3908	3912	4	.5
4000	520	45	2.26	-9	-8	-6	-5	-3	5588	5591	5593	3902	3906	3909	4	.5
4000	560	45	2.21	-16	-15	-13	-12	-11	5587	5589	5592	3901	3904	3907	4	.5
4500	360	45	2.72	11	15	18	22	25	6285	6294	6304	4387	4401	4414	5	.5
4500	400	45	2.65	6	9	12	14	17	6282	6289	6295	4383	4393	4402	4	.5
4500	440	45	2.59	2	5	7	9	11	6283	6288	6293	4385	4392	4399	4	.5
4500	480	45	2.54	-3	-1	0	2	4	6282	6285	6289	4383	4388	4393	4	.5
4500	520	45	2.48	-9	-8	-6	-5	-3	6281	6284	6286	4382	4386	4390	4	.5
4500	560	45	2.43	-16	-14	-13	-11	-10	6280	6283	6286	4381	4385	4389	4	.5
5000	360	45	2.97	12	16	19	23	26	6976	6987	6997	4865	4880	4895	5	.5
5000	400	45	2.90	7	10	13	15	18	6974	6981	6988	4861	4872	4882	5	.5
5000	440	45	2.83	3	5	8	10	12	6976	6981	6986	4864	4872	4879	5	.5
5000	480	45	2.77	-2	-1	1	3	5	6974	6978	6982	4862	4868	4873	5	.5
5000	520	45	2.71	-9	-8	-6	-5	-3	6973	6976	6979	4860	4864	4868	5	.5
5000	560	45	2.65	-15	-14	-12	-11	-10	6973	6976	6979	4860	4864	4869	4	.5
5500	360	45	3.23	13	17	20	23	27	7667	7678	7689	5341	5357	5374	5	.5
5500	400	45	3.15	8	11	13	16	19	7664	7672	7680	5337	5349	5360	5	.5
5500	440	45	3.08	4	6	8	10	13	7667	7673	7678	5341	5350	5358	5	.5
5500	480	45	3.01	-1	0	2	4	5	7665	7669	7674	5339	5345	5351	5	.5
5500	520	45	2.94	-9	-7	-6	-5	-3	7664	7667	7670	5337	5342	5346	5	.5
5500	560	45	2.88	-15	-13	-12	-10	-9	7664	7667	7671	5338	5342	5347	5	.5
6000	360	45	3.50	14	17	21	24	28	8355	8368	8380	5815	5833	5850	6	.5
6000	400	45	3.41	9	11	14	17	20	8353	8362	8370	5812	5824	5836	6	.5
6000	440	45	3.33	5	7	9	11	13	8357	8363	8369	5817	5826	5835	6	.5
6000	480	45	3.25	-1	1	3	4	6	8355	8360	8364	5815	5821	5827	5	.5
6000	520	45	3.18	-9	-7	-6	-4	-3	8353	8357	8361	5812	5817	5822	5	.5
6000	560	45	3.11	-14	-13	-11	-10	-8	8355	8358	8362	5814	5819	5824	5	.5

Table 6-38. (Sheet 9)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH MK-1/MK-5 WARHEAD AND MK61 PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS												
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
7000	360	45	4.05	16	19	23	26	30	9729	9743	9757	6757	6777	6797	7	.5
7000	400	45	3.94	10	13	16	19	21	9728	9737	9747	6755	6769	6782	7	.5
7000	440	45	3.85	6	8	10	12	14	9732	9739	9746	6761	6771	6781	6	.5
7000	480	45	3.76	0	2	4	5	7	9731	9736	9741	6759	6766	6773	6	.5
7000	520	45	3.67	-8	-7	-5	-4	-2	9729	9734	9738	6757	6764	6770	6	.5
7000	560	45	3.59	-13	-12	-10	-9	-7	9732	9737	9741	6762	6768	6774	6	.4
8000	360	45	4.62	18	21	25	28	31	11097	11112	11128	7591	7713	7735	8	.5
8000	400	45	4.50	12	15	18	20	23	11097	11108	11119	7591	7706	7721	8	.5
8000	440	45	4.39	6	8	10	12	14	11100	11108	11115	7695	7706	7717	7	.5
8000	480	45	4.28	0	2	4	5	7	11100	11106	11111	7695	7703	7711	7	.5
8000	520	45	4.18	-8	-6	-5	-3	-1	11100	11106	11111	7696	7703	7711	7	.5
8000	560	45	4.09	-12	-10	-9	-7	-6	11106	11111	11116	7704	7711	7719	7	.4
6500	360	60	3.12	1	3	6	8	10	7465	7469	7474	3670	3679	3688	5	.5
6500	400	60	3.05	-3	-1	1	3	5	7463	7466	7469	3668	3674	3680	5	.6
6500	440	60	2.98	-6	-4	-3	-1	0	7464	7467	7469	3670	3675	3679	5	.5
7000	360	60	3.33	1	4	6	8	11	8036	8041	8046	3947	3957	3967	6	.5
7000	400	60	3.25	-3	-1	1	3	5	8035	8038	8042	3945	3952	3958	5	.6
7000	440	60	3.18	-6	-4	-3	-1	0	8036	8038	8041	3947	3952	3957	5	.6
7000	480	60	3.11	-10	-9	-8	-7	-5	8035	8036	8038	3944	3947	3951	5	.6
7000	520	60	3.04	-18	-17	-16	-15	-14	8033	8034	8036	3940	3943	3946	5	.6
7000	560	60	2.97	-23	-22	-20	-19	-18	8032	8034	8035	3940	3943	3946	5	.5
7500	360	60	3.55	2	4	7	9	11	8608	8613	8618	4224	4234	4244	6	.6
7500	400	60	3.46	-2	-0	2	4	5	8607	8610	8613	4222	4229	4236	5	.5
7500	440	60	3.38	-6	-4	-3	-1	-0	8607	8610	8612	4223	4228	4233	6	.6
7500	480	60	3.30	-11	-9	-8	-7	-6	8606	8608	8609	4220	4224	4227	6	.6
7500	520	60	3.23	-18	-17	-16	-15	-14	8604	8605	8607	4216	4219	4223	5	.5
7500	560	60	3.16	-22	-21	-20	-19	-18	8604	8606	8607	4217	4220	4224	5	.5
8000	360	60	3.77	2	5	7	9	12	9178	9184	9189	4499	4510	4521	6	.6
8000	400	60	3.67	-2	0	2	4	6	9178	9181	9185	4498	4505	4513	6	.6
8000	440	60	3.59	-6	-4	-3	-2	-0	9178	9180	9183	4498	4504	4509	6	.5
8000	480	60	3.50	-11	-10	-8	-7	-6	9177	9178	9180	4495	4499	4503	6	.5
8000	520	60	3.43	-19	-17	-16	-15	-14	9175	9176	9178	4492	4495	4499	6	.6
8000	560	60	3.35	-22	-21	-20	-19	-17	9176	9177	9179	4494	4497	4501	6	.5
8500	360	60	3.99	3	5	7	10	12	9749	9755	9760	4774	4786	4797	7	.6
8500	400	60	3.89	-1	1	3	4	6	9749	9753	9756	4774	4781	4789	7	.5
8500	440	60	3.79	-6	-4	-3	-1	-0	9749	9751	9754	4773	4779	4784	6	.6
8500	480	60	3.71	-11	-10	-9	-8	-7	9747	9749	9751	4770	4774	4778	6	.6
8500	520	60	3.62	-19	-17	-16	-15	-14	9746	9747	9749	4767	4771	4775	6	.5
8500	560	60	3.54	-21	-20	-19	-18	-17	9747	9749	9751	4770	4774	4778	6	.5
9000	360	60	4.21	3	5	8	10	13	10319	10325	10331	5048	5060	5072	7	.6
9000	400	60	4.11	-1	1	3	5	7	10319	10323	10327	5049	5057	5065	7	.6
9000	440	60	4.00	-6	-4	-3	-1	0	10319	10322	10324	5048	5053	5059	7	.5
9000	480	60	3.91	-12	-11	-10	-8	-7	10317	10319	10321	5044	5048	5052	7	.5
9000	520	60	3.82	-19	-17	-16	-15	-14	10316	10318	10320	5042	5046	5051	6	.5
9000	560	60	3.73	-21	-20	-19	-18	-17	10318	10320	10322	5046	5050	5054	6	.5
10000	360	60	4.67	4	6	9	11	13	11458	11465	11471	5594	5607	5619	8	.6
10000	400	60	4.55	1	2	4	6	8	11460	11464	11468	5597	5606	5615	8	.6
10000	440	60	4.43	-5	-3	-2	-1	1	11459	11462	11465	5595	5601	5608	7	.6
10000	480	60	4.32	-13	-11	-10	-9	-8	11456	11459	11461	5590	5595	5600	7	.6
10000	520	60	4.22	-19	-17	-16	-15	-14	11456	11459	11461	5590	5595	5600	7	.5
10000	560	60	4.13	-20	-19	-18	-17	-16	11460	11462	11464	5597	5601	5606	7	.5
11000	360	60	5.14	5	7	10	12	14	12596	12603	12609	6137	6150	6163	9	.5
11000	400	60	5.00	1	3	5	6	8	12598	12603	12607	6141	6151	6160	8	.6
11000	440	60	4.87	-5	-3	-2	-0	1	12597	12600	12603	6139	6145	6152	8	.5
11000	480	60	4.75	-13	-12	-11	-10	-8	12594	12597	12600	6133	6139	6144	8	.5
11000	520	60	4.63	-18	-17	-15	-14	-13	12596	12599	12601	6137	6142	6148	8	.5
11000	560	60	4.52	-20	-19	-17	-16	-15	12600	12603	12605	6145	6150	6155	8	.5
12000	360	60	5.61	6	8	10	13	15	13732	13739	13746	6676	6690	6704	9	.5
12000	400	60	5.46	1	2	4	6	7	13734	13739	13743	6680	6689	6699	9	.6
12000	440	60	5.31	-6	-4	-3	-1	0	13732	13736	13739	6677	6683	6690	9	.6
12000	480	60	5.18	-14	-12	-11	-10	-8	13731	13734	13737	6674	6681	6687	9	.6
12000	520	60	5.05	-17	-16	-15	-13	-12	13735	13738	13741	6682	6688	6694	9	.5
12000	560	60	4.93	-19	-18	-17	-15	-14	13740	13742	13745	6692	6697	6703	8	.5

Table 6-39. (Sheet 1)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH M151/M156 WARHEAD AND WTU-1/B PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS: SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
900	360	10	2.68	27	31	35	40	44	4709	4784	4862	4622	4699	4778	5	.2
900	400	10	2.60	20	24	27	31	34	4690	4745	4801	4603	4659	4716	4	.2
900	440	10	2.52	15	18	21	24	27	4684	4725	4767	4597	4639	4681	4	.2
900	480	10	2.46	11	13	16	18	21	4685	4716	4747	4598	4629	4660	4	.2
900	520	10	2.40	7	9	11	14	16	4690	4713	4736	4603	4627	4650	4	.2
900	560	10	2.35	5	7	8	10	12	4702	4719	4736	4615	4632	4649	4	.2
1250	360	10	3.61	33	37	42	46	50	6333	6427	6523	6209	6304	6402	6	.2
1250	400	10	3.49	26	30	33	37	40	6318	6387	6457	6194	6264	6335	6	.2
1250	440	10	3.39	21	24	27	30	33	6319	6370	6422	6194	6246	6299	6	.2
1250	480	10	3.31	16	19	21	24	26	6327	6366	6404	6203	6242	6281	6	.2
1250	520	10	3.23	13	15	17	19	21	6341	6370	6399	6216	6246	6275	5	.2
1250	560	10	3.16	10	12	13	15	17	6363	6384	6405	6239	6260	6282	5	.2
1250	360	15	2.58	25	29	33	38	42	4547	4597	4648	4372	4424	4476	4	.3
1250	400	15	2.50	19	22	26	29	32	4534	4571	4608	4359	4396	4435	4	.3
1250	440	15	2.43	14	17	20	22	25	4530	4557	4584	4354	4382	4410	4	.2
1250	480	15	2.37	10	12	14	17	19	4530	4550	4571	4354	4375	4396	4	.2
1250	520	15	2.32	6	8	10	12	14	4533	4548	4563	4358	4373	4389	4	.2
1250	560	15	2.27	4	6	7	9	10	4541	4552	4563	4365	4377	4388	4	.2
1500	360	15	3.03	28	32	36	41	45	5399	5456	5514	5186	5246	5306	5	.3
1500	400	15	2.94	22	25	28	32	35	5386	5428	5471	5173	5217	5261	5	.3
1500	440	15	2.86	16	19	22	25	28	5383	5415	5446	5170	5203	5235	5	.2
1500	480	15	2.79	12	15	17	19	22	5386	5409	5432	5173	5197	5221	5	.2
1500	520	15	2.72	9	11	13	15	16	5391	5408	5426	5178	5196	5214	5	.2
1500	560	15	2.66	6	8	10	11	13	5402	5415	5427	5190	5203	5216	4	.2
1750	360	15	3.50	31	35	39	44	48	6230	6294	6359	5979	6046	6114	6	.3
1750	400	15	3.40	24	28	31	35	38	6219	6266	6314	5968	6017	6066	6	.3
1750	440	15	3.31	19	22	25	28	31	6219	6254	6289	5967	6004	6041	6	.3
1750	480	15	3.22	15	17	20	22	24	6224	6250	6276	5973	6000	6027	5	.2
1750	520	15	3.15	11	13	15	17	19	6232	6252	6271	5981	6002	6022	5	.2
1750	560	15	3.08	9	10	12	14	15	6247	6262	6276	5997	6012	6027	5	.2
1500	360	20	2.40	22	26	30	35	39	4214	4248	4282	3938	3974	4011	4	.3
1500	400	20	2.33	16	20	23	26	30	4204	4229	4254	3928	3954	3981	4	.3
1500	440	20	2.27	12	14	17	20	23	4201	4219	4238	3924	3943	3963	4	.3
1500	480	20	2.21	8	10	12	15	17	4200	4214	4228	3923	3938	3953	4	.3
1500	520	20	2.16	4	6	8	10	12	4202	4212	4222	3925	3936	3947	4	.3
1500	560	20	2.12	2	4	5	7	8	4207	4214	4222	3930	3938	3946	4	.3
1750	360	20	2.74	24	29	33	37	41	4887	4925	4965	4562	4604	4646	5	.3
1750	400	20	2.66	18	22	25	28	32	4877	4905	4934	4552	4583	4613	4	.3
1750	440	20	2.59	14	16	19	22	25	4874	4895	4916	4549	4572	4594	4	.3
1750	480	20	2.52	10	12	14	16	19	4875	4890	4906	4550	4566	4583	4	.3
1750	520	20	2.47	6	8	10	12	14	4877	4889	4901	4553	4565	4578	4	.3
1750	560	20	2.41	4	6	7	9	10	4884	4893	4901	4560	4569	4578	4	.3
2000	360	20	3.09	27	31	35	39	43	5551	5594	5638	5178	5225	5272	5	.3
2000	400	20	3.00	20	24	27	31	34	5542	5573	5605	5168	5202	5237	5	.3
2000	440	20	2.92	16	18	21	24	27	5540	5563	5587	5166	5191	5217	5	.3
2000	480	20	2.85	11	14	16	18	21	5542	5559	5577	5168	5187	5206	5	.3
2000	520	20	2.78	8	10	12	14	15	5546	5559	5572	5173	5187	5201	5	.3
2000	560	20	2.72	6	7	9	10	12	5554	5564	5573	5182	5192	5202	5	.3
2000	360	30	2.24	17	21	25	29	32	3916	3935	3953	3366	3388	3410	4	.5
2000	400	30	2.18	12	15	18	21	24	3910	3924	3938	3360	3376	3392	4	.5
2000	440	30	2.12	8	10	13	15	18	3908	3918	3928	3357	3369	3381	4	.5
2000	480	30	2.07	4	6	8	10	12	3907	3915	3922	3357	3365	3374	4	.5
2000	520	30	2.03	1	3	4	6	8	3908	3913	3919	3357	3364	3370	3	.5
2000	560	30	1.98	-1	0	2	3	5	3910	3914	3918	3360	3365	3370	3	.4
2250	360	30	2.46	19	22	26	30	34	4394	4415	4436	3775	3799	3824	4	.5
2250	400	30	2.40	13	16	19	22	25	4389	4404	4419	3768	3786	3804	4	.5
2250	440	30	2.34	9	11	14	16	19	4387	4398	4409	3765	3779	3792	4	.5
2250	480	30	2.28	5	7	9	11	14	4386	4395	4403	3765	3775	3785	4	.5
2250	520	30	2.23	2	4	5	7	9	4387	4393	4400	3766	3773	3781	4	.4
2250	560	30	2.18	-0	1	3	4	6	4390	4394	4399	3769	3775	3780	4	.4
2500	360	30	2.70	20	24	28	31	35	4871	4894	4917	4180	4207	4234	5	.5
2500	400	30	2.63	14	18	21	24	27	4865	4882	4899	4173	4193	4213	4	.5
2500	440	30	2.56	10	13	15	18	20	4863	4876	4888	4171	4186	4200	4	.5
2500	480	30	2.50	6	8	10	13	15	4863	4872	4882	4171	4182	4193	4	.4
2500	520	30	2.44	3	5	7	8	10	4865	4871	4878	4173	4181	4189	4	.4
2500	560	30	2.39	1	2	4	5	6	4868	4873	4877	4177	4182	4188	4	.4

Table 6-39. (Sheet 2)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH M151/M156 WARHEAD AND WTU-1/B PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS	
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT			FT/KT	MIL/KT
2750	360	30	2.94	21	25	29	33	36	5345	5370	5395	4583	4612	4641	5	.5
2750	400	30	2.86	16	19	22	25	28	5339	5357	5376	4576	4598	4619	5	.5
2750	440	30	2.79	11	14	16	19	21	5338	5351	5365	4575	4590	4606	5	.5
2750	480	30	2.72	7	10	12	14	16	5338	5348	5358	4575	4587	4599	5	.4
2750	520	30	2.66	4	6	8	9	11	5340	5347	5355	4577	4586	4595	4	.4
2750	560	30	2.60	2	3	4	6	7	5343	5349	5354	4581	4588	4594	4	.4
3000	360	30	3.20	23	27	30	34	38	5816	5843	5870	4983	5014	5046	5	.5
3000	400	30	3.11	17	20	23	26	29	5811	5830	5850	4976	4999	5022	5	.5
3000	440	30	3.03	13	15	18	20	23	5810	5824	5839	4975	4992	5009	5	.5
3000	480	30	2.96	9	11	13	15	17	5811	5822	5832	4976	4989	5002	5	.4
3000	520	30	2.89	5	7	9	11	12	5814	5822	5830	4980	4989	4998	5	.4
3000	560	30	2.82	2	4	5	7	8	5817	5823	5829	4984	4991	4997	5	.4
3500	360	30	3.73	26	30	33	37	41	6751	6781	6812	5773	5808	5844	6	.5
3500	400	30	3.63	20	23	26	29	32	6746	6768	6791	5767	5793	5819	6	.5
3500	440	30	3.53	15	18	20	23	25	6746	6763	6780	5768	5787	5806	6	.5
3500	480	30	3.44	11	13	15	18	20	6749	6761	6774	5771	5785	5799	6	.4
3500	520	30	3.36	8	10	11	13	15	6754	6763	6772	5776	5787	5797	6	.4
3500	560	30	3.29	4	6	7	8	10	6758	6764	6771	5781	5788	5796	6	.4
4000	360	30	4.29	29	33	37	41	44	7673	7707	7741	6548	6588	6628	7	.5
4000	400	30	4.17	23	26	29	32	35	7670	7695	7720	6544	6573	6602	7	.5
4000	440	30	4.07	18	21	23	26	28	7672	7691	7709	6547	6569	6590	7	.5
4000	480	30	3.96	14	16	18	20	22	7677	7691	7704	6553	6568	6584	7	.5
4000	520	30	3.87	11	12	14	16	18	7684	7694	7704	6561	6573	6585	7	.4
4000	560	30	3.78	6	8	9	10	12	7689	7696	7703	6567	6575	6583	6	.4
4500	360	30	4.89	33	36	40	44	48	8582	8619	8657	7308	7351	7395	8	.5
4500	400	30	4.76	26	29	33	36	39	8582	8609	8636	7307	7339	7371	8	.5
4500	440	30	4.63	21	24	26	29	32	8586	8606	8626	7313	7336	7360	8	.5
4500	480	30	4.52	17	19	21	23	25	8594	8608	8623	7321	7339	7356	8	.5
4500	520	30	4.41	14	15	17	19	21	8604	8615	8626	7334	7346	7359	7	.5
4500	560	30	4.31	9	10	12	13	14	8610	8618	8626	7341	7350	7359	7	.4
5000	360	30	5.52	36	40	44	48	52	9478	9517	9557	8052	8098	8145	9	.5
5000	400	30	5.37	30	33	36	39	42	9480	9509	9538	8054	8088	8122	9	.5
5000	440	30	5.23	25	27	30	32	35	9487	9509	9530	8063	8088	8113	9	.5
5000	480	30	5.10	20	22	24	26	29	9498	9514	9530	8075	8094	8113	9	.5
5000	520	30	4.98	17	18	20	22	24	9512	9524	9535	8092	8106	8119	8	.5
5000	560	30	4.86	11	13	14	16	17	9520	9529	9537	8102	8111	8121	8	.5
4000	360	45	3.03	12	16	19	22	25	5581	5594	5606	3892	3910	3928	5	.7
4000	400	45	2.95	8	10	13	15	18	5578	5587	5596	3888	3901	3914	5	.5
4000	440	45	2.88	4	6	8	10	13	5577	5584	5591	3887	3896	3906	5	.5
4000	480	45	2.81	1	3	5	6	8	5578	5583	5587	3887	3894	3901	5	.6
4000	520	45	2.74	-1	0	2	3	4	5579	5582	5586	3889	3894	3899	5	.5
4000	560	45	2.68	-5	-4	-3	-1	-0	5579	5582	5584	3889	3893	3896	5	.6
4500	360	45	3.40	14	17	20	23	26	6268	6282	6296	4364	4383	4403	6	.7
4500	400	45	3.30	9	12	14	17	20	6266	6276	6286	4360	4374	4388	6	.6
4500	440	45	3.22	6	8	10	12	14	6265	6272	6280	4359	4370	4380	5	.6
4500	480	45	3.14	2	4	6	8	9	6266	6271	6277	4360	4368	4376	5	.6
4500	520	45	3.07	0	2	3	4	6	6268	6272	6276	4363	4369	4374	5	.5
4500	560	45	3.00	-4	-3	-1	-0	1	6268	6271	6273	4363	4367	4371	5	.5
5000	360	45	3.78	16	19	22	25	28	6953	6968	6983	4831	4853	4874	6	.7
5000	400	45	3.68	11	14	16	19	21	6950	6961	6972	4828	4843	4859	6	.5
5000	440	45	3.58	7	9	11	13	16	6950	6958	6966	4828	4839	4851	6	.6
5000	480	45	3.49	4	6	7	9	11	6952	6957	6963	4829	4838	4846	6	.5
5000	520	45	3.41	2	3	4	6	7	6954	6959	6963	4834	4840	4846	6	.6
5000	560	45	3.33	-3	-1	-0	1	2	6955	6958	6961	4834	4838	4843	6	.6
5500	360	45	4.18	18	21	24	27	30	7634	7650	7667	5295	5318	5341	7	.7
5500	400	45	4.07	13	15	18	20	23	7632	7644	7656	5292	5309	5326	7	.6
5500	440	45	3.96	9	11	13	15	17	7633	7642	7650	5293	5305	5318	7	.6
5500	480	45	3.86	5	7	9	11	12	7635	7641	7648	5295	5305	5314	7	.5
5500	520	45	3.77	3	5	6	7	9	7639	7643	7648	5301	5308	5314	6	.6
5500	560	45	3.68	-1	-0	1	2	3	7639	7642	7646	5301	5306	5311	6	.5
6000	360	45	4.60	20	23	26	29	32	8313	8330	8348	5753	5778	5804	8	.7
6000	400	45	4.47	15	17	20	22	25	8311	8324	8337	5752	5770	5788	8	.7
6000	440	45	4.36	10	13	15	17	19	8313	8322	8331	5753	5767	5780	7	.6
6000	480	45	4.25	7	9	10	12	14	8316	8322	8329	5757	5767	5777	7	.6
6000	520	45	4.15	5	6	8	9	10	8321	8326	8330	5765	5772	5779	7	.6
6000	560	45	4.05	0	1	2	3	5	8321	8325	8329	5766	5771	5776	7	.5

Table 6-39. (Sheet 3)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH M151/M156 WARHEAD AND WTU-1/B PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 0 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS: SIGHT SETTING - MILS NEG SETTING INDICATES ELEV 12.0	14.0	16.0	18.0	20.0	SLANT RANGE - FEET 12.0	16.0	20.0	HORIZONTAL RANGE - FT 12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
7000	360	45	5.48	24	27	30	33	36	9659	9679	9699	6656	6684	6713	9	.7
7000	400	45	5.33	18	21	24	26	29	9660	9674	9689	6657	6678	6698	9	.7
7000	440	45	5.19	14	16	18	20	22	9663	9674	9684	6662	6677	6692	9	.7
7000	480	45	5.06	10	12	14	16	17	9668	9676	9683	6669	6680	6691	9	.5
7000	520	45	4.94	8	9	10	12	13	9675	9680	9686	6679	6686	6694	8	.6
7000	560	45	4.82	3	4	5	7	8	9679	9683	9687	6684	6690	6696	8	.5
8000	360	45	6.43	28	31	35	38	41	10992	11013	11035	7538	7569	7600	11	.7
8000	400	45	6.26	23	25	28	30	33	10995	11011	11026	7542	7565	7588	11	.7
8000	440	45	6.09	18	20	22	24	27	11001	11012	11024	7551	7568	7584	10	.7
8000	480	45	5.94	14	16	18	19	21	11008	11017	11025	7562	7574	7586	10	.7
8000	520	45	5.80	10	12	13	14	16	11016	11022	11027	7573	7581	7590	10	.6
8000	560	45	5.66	6	7	8	9	10	11023	11028	11032	7583	7590	7597	10	.6
6500	360	60	4.01	3	6	8	10	12	7454	7460	7467	3648	3661	3675	7	.8
6500	400	60	3.91	0	2	4	5	7	7453	7457	7462	3646	3655	3665	7	.8
6500	440	60	3.81	-3	-1	0	2	3	7453	7456	7459	3646	3653	3660	6	.8
6500	480	60	3.71	-5	-4	-3	-1	-0	7453	7456	7458	3647	3652	3657	6	.7
6500	520	60	3.62	-6	-5	-4	-3	-2	7455	7457	7458	3650	3654	3657	6	.7
6500	560	60	3.54	-10	-9	-9	-8	-7	7454	7455	7457	3648	3651	3654	6	.7
7000	360	60	4.34	4	7	9	11	13	8022	8029	8036	3919	3933	3947	7	.8
7000	400	60	4.23	1	3	5	6	8	8021	8026	8031	3917	3927	3937	7	.8
7000	440	60	4.12	-2	-0	1	3	4	8021	8025	8029	3917	3925	3932	7	.8
7000	480	60	4.02	-4	-3	-2	-1	1	8022	8025	8028	3918	3924	3929	7	.7
7000	520	60	3.92	-6	-5	-4	-3	-2	8024	8026	8028	3922	3926	3930	7	.7
7000	560	60	3.83	-9	-9	-8	-7	-6	8024	8025	8027	3922	3925	3928	6	.7
7500	360	60	4.69	6	8	10	12	14	8590	8597	8605	4188	4203	4218	8	.8
7500	400	60	4.56	2	4	6	7	9	8589	8595	8600	4186	4197	4208	8	.8
7500	440	60	4.44	-1	1	2	4	5	8590	8594	8597	4187	4195	4203	7	.8
7500	480	60	4.33	-3	-2	-1	0	1	8591	8593	8596	4189	4195	4201	7	.7
7500	520	60	4.23	-5	-4	-3	-2	-1	8592	8594	8596	4192	4196	4200	7	.7
7500	560	60	4.13	-9	-8	-7	-6	-5	8593	8594	8596	4193	4196	4200	7	.7
8000	360	60	5.04	7	9	11	13	16	9157	9164	9172	4455	4471	4486	9	.8
8000	400	60	4.90	3	5	7	9	10	9156	9162	9168	4454	4466	4477	8	.8
8000	440	60	4.78	0	2	3	5	6	9157	9161	9165	4455	4464	4472	8	.8
8000	480	60	4.66	-2	-1	0	1	3	9158	9161	9164	4458	4464	4470	8	.8
8000	520	60	4.54	-5	-4	-3	-2	-1	9160	9162	9164	4461	4465	4469	8	.7
8000	560	60	4.43	-9	-8	-7	-6	-5	9160	9162	9164	4462	4466	4469	7	.7
8500	360	60	5.40	8	10	12	14	17	9723	9731	9739	4720	4737	4753	9	.8
8500	400	60	5.26	4	6	8	10	11	9723	9728	9734	4720	4732	4744	9	.8
8500	440	60	5.12	1	3	4	6	7	9723	9728	9732	4722	4731	4739	9	.8
8500	480	60	4.99	-1	-0	1	2	4	9725	9728	9732	4726	4732	4739	8	.8
8500	520	60	4.87	-4	-4	-3	-2	-1	9726	9728	9731	4728	4732	4737	8	.7
8500	560	60	4.75	-8	-8	-7	-6	-5	9727	9729	9731	4730	4734	4737	8	.7
9000	360	60	5.78	9	11	13	16	18	10287	10296	10304	4983	5001	5018	10	.8
9000	400	60	5.62	5	7	9	11	13	10288	10294	10300	4984	4997	5009	9	.8
9000	440	60	5.47	2	4	5	7	8	10289	10294	10298	4987	4996	5005	9	.8
9000	480	60	5.34	-0	1	2	3	5	10292	10295	10298	4992	4998	5005	9	.8
9000	520	60	5.20	-4	-3	-2	-1	0	10293	10295	10297	4994	4998	5003	9	.7
9000	560	60	5.08	-8	-7	-6	-6	-5	10294	10296	10297	4996	5000	5003	9	.7
10000	360	60	6.56	12	14	16	18	21	11414	11423	11433	5503	5522	5541	11	.9
10000	400	60	6.38	8	10	11	13	15	11416	11422	11429	5506	5519	5533	11	.8
10000	440	60	6.21	4	6	7	9	10	11418	11423	11427	5511	5520	5530	10	.8
10000	480	60	6.05	2	3	5	6	7	11422	11425	11429	5519	5526	5533	10	.8
10000	520	60	5.90	-2	-1	-0	1	2	11423	11425	11427	5520	5525	5530	10	.8
10000	560	60	5.76	-8	-7	-6	-5	-4	11424	11426	11428	5523	5527	5531	10	.7
11000	360	60	7.37	14	16	19	21	23	12537	12547	12557	6015	6035	6055	12	.9
11000	400	60	7.17	10	12	14	16	17	12539	12546	12553	6019	6034	6049	12	.9
11000	440	60	6.98	7	8	10	11	13	12543	12548	12553	6027	6037	6048	12	.9
11000	480	60	6.81	5	6	7	8	10	12548	12552	12555	6038	6046	6053	11	.8
11000	520	60	6.63	-0	1	2	3	4	12550	12552	12555	6041	6046	6052	11	.8
11000	560	60	6.47	-7	-6	-5	-4	-3	12550	12552	12555	6042	6047	6051	11	.8
12000	360	60	8.21	17	19	22	24	26	13656	13666	13676	6517	6539	6561	14	.9
12000	400	60	7.99	13	15	16	18	20	13659	13666	13674	6524	6540	6556	13	.9
12000	440	60	7.78	9	11	12	14	15	13664	13669	13674	6534	6545	6556	13	.8
12000	480	60	7.59	6	8	9	10	11	13669	13673	13677	6546	6554	6562	13	.8
12000	520	60	7.40	2	3	4	5	6	13673	13676	13679	6554	6559	6565	12	.8
12000	560	60	7.21	-6	-5	-4	-3	-2	13673	13676	13678	6554	6560	6565	12	.8

Table 6-39. (Sheet 4)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH M151/M156 WARHEAD AND WTU-1/B PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
900	360	10	2.59	26	30	34	39	43	4737	4810	4885	4650	4725	4801	4	.2
900	400	10	2.51	19	23	26	30	33	4718	4770	4824	4631	4685	4739	4	.2
900	440	10	2.44	14	17	20	23	26	4711	4749	4788	4624	4663	4703	4	.2
900	480	10	2.38	10	12	14	17	19	4710	4739	4767	4624	4652	4681	4	.2
900	520	10	2.32	7	9	11	13	14	4719	4739	4760	4632	4653	4674	4	.2
900	560	10	2.27	1	3	5	6	8	4716	4731	4746	4629	4645	4660	4	.2
1250	360	10	3.45	31	36	40	44	49	6388	6480	6574	6265	6359	6454	6	.2
1250	400	10	3.34	24	28	32	35	39	6372	6439	6507	6249	6317	6386	5	.2
1250	440	10	3.24	19	22	25	28	31	6371	6420	6469	6247	6297	6347	5	.2
1250	480	10	3.16	14	17	19	22	24	6377	6413	6449	6254	6290	6327	5	.2
1250	520	10	3.09	11	13	15	17	19	6395	6421	6447	6272	6298	6325	5	.2
1250	560	10	3.01	6	7	9	11	12	6398	6417	6437	6275	6294	6314	5	.2
1250	360	15	2.49	24	28	32	37	41	4565	4612	4661	4390	4440	4490	4	.2
1250	400	15	2.42	18	21	25	28	31	4552	4586	4621	4377	4413	4449	4	.2
1250	440	15	2.35	13	15	18	21	24	4546	4572	4597	4371	4397	4424	4	.2
1250	480	15	2.29	8	11	13	15	18	4546	4564	4583	4371	4390	4409	4	.2
1250	520	15	2.24	6	7	9	11	13	4551	4565	4578	4376	4390	4404	4	.2
1250	560	15	2.19	0	2	3	5	7	4549	4559	4569	4374	4384	4395	4	.2
1500	360	15	2.91	27	31	35	39	44	5424	5479	5536	5212	5270	5329	5	.2
1500	400	15	2.82	20	24	27	31	34	5411	5451	5492	5199	5241	5283	5	.2
1500	440	15	2.75	15	18	21	24	26	5407	5437	5466	5195	5226	5256	5	.2
1500	480	15	2.68	11	13	15	18	20	5409	5430	5452	5196	5219	5241	5	.2
1500	520	15	2.61	8	10	11	13	15	5417	5432	5447	5205	5221	5237	4	.2
1500	560	15	2.55	2	4	5	7	9	5416	5428	5439	5205	5217	5229	4	.2
1750	360	15	3.35	29	34	38	42	46	6266	6328	6391	6016	6081	6147	5	.2
1750	400	15	3.25	23	26	30	33	37	6254	6299	6345	6004	6051	6099	5	.2
1750	440	15	3.16	17	20	23	26	29	6252	6285	6319	6002	6037	6071	5	.2
1750	480	15	3.08	13	15	18	20	22	6256	6280	6305	6006	6032	6057	5	.2
1750	520	15	3.01	10	12	13	15	17	6267	6284	6301	6017	6035	6053	5	.2
1750	560	15	2.94	4	6	8	9	11	6270	6283	6296	6021	6034	6048	5	.2
1500	360	20	2.32	21	25	30	34	38	4224	4257	4290	3949	3984	4019	4	.3
1500	400	20	2.26	15	19	22	25	29	4215	4238	4262	3939	3964	3990	4	.3
1500	440	20	2.20	10	13	16	19	22	4211	4228	4245	3935	3953	3971	4	.3
1500	480	20	2.14	6	9	11	13	15	4210	4222	4235	3934	3947	3961	4	.3
1500	520	20	2.09	4	6	7	9	11	4213	4222	4231	3937	3947	3956	4	.3
1500	560	20	2.04	-2	0	2	3	5	4212	4218	4225	3935	3943	3950	3	.3
1750	360	20	2.64	23	27	32	36	40	4901	4938	4976	4578	4618	4658	4	.3
1750	400	20	2.56	17	21	24	27	31	4892	4919	4946	4568	4597	4626	4	.3
1750	440	20	2.49	12	15	18	21	23	4888	4908	4927	4564	4585	4606	4	.3
1750	480	20	2.43	8	10	13	15	17	4888	4902	4917	4564	4579	4595	4	.3
1750	520	20	2.37	5	7	9	11	12	4892	4902	4912	4568	4579	4590	4	.3
1750	560	20	2.32	0	2	3	5	6	4892	4899	4907	4568	4576	4584	4	.3
2000	360	20	2.97	25	29	34	38	42	5571	5612	5654	5199	5244	5289	5	.3
2000	400	20	2.88	19	22	26	29	33	5561	5591	5622	5189	5221	5254	5	.3
2000	440	20	2.80	14	17	20	22	25	5558	5580	5602	5186	5210	5233	5	.3
2000	480	20	2.73	10	12	14	17	19	5559	5575	5592	5187	5204	5222	5	.3
2000	520	20	2.67	6	8	10	12	14	5564	5576	5587	5193	5205	5217	4	.3
2000	560	20	2.60	2	3	5	6	8	5566	5575	5584	5194	5204	5213	4	.3
2000	360	30	2.17	17	20	24	28	32	3921	3939	3957	3373	3393	3414	4	.5
2000	400	30	2.11	11	14	17	20	23	3916	3929	3942	3366	3381	3396	4	.5
2000	440	30	2.06	7	9	12	14	17	3913	3922	3932	3363	3374	3385	3	.5
2000	480	30	2.01	3	5	7	9	11	3912	3919	3926	3362	3370	3378	3	.4
2000	520	30	1.96	0	2	3	5	7	3913	3918	3923	3363	3369	3375	3	.4
2000	560	30	1.92	-4	-3	-2	-0	1	3913	3916	3920	3363	3367	3371	3	.4
2250	360	30	2.38	18	22	25	29	33	4401	4421	4441	3783	3806	3829	4	.5
2250	400	30	2.32	12	15	18	22	25	4395	4410	4424	3776	3793	3810	4	.5
2250	440	30	2.26	8	10	13	15	18	4393	4403	4414	3773	3785	3797	4	.4
2250	480	30	2.20	4	6	8	10	12	4392	4400	4408	3772	3781	3790	4	.4
2250	520	30	2.15	1	2	4	6	7	4393	4399	4404	3773	3780	3786	4	.4
2250	560	30	2.10	-4	-2	-1	1	2	4393	4398	4402	3774	3779	3783	4	.4
2500	360	30	2.60	19	23	27	30	34	4879	4901	4923	4190	4216	4241	4	.5
2500	400	30	2.53	13	16	20	23	26	4873	4889	4905	4183	4202	4220	4	.4
2500	440	30	2.46	9	11	14	16	19	4871	4882	4894	4180	4194	4207	4	.4
2500	480	30	2.40	5	7	9	11	13	4871	4879	4888	4180	4190	4200	4	.4
2500	520	30	2.35	2	3	5	7	8	4872	4878	4884	4182	4188	4195	4	.4
2500	560	30	2.29	-3	-1	0	2	3	4873	4877	4882	4183	4188	4193	4	.4

Table 6-39. (Sheet 5)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH M151/M156 WARHEAD AND WTU-1/B PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	SIGHT SETTING - MILS (NEG SETTING INDICATES ELEV) 12.0	14.0	16.0	18.0	20.0	SLANT RANGE - FEET 12.0	16.0	20.0	HORIZONTAL RANGE - FT 12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
2750	360	30	2.83	20	24	28	32	35	5355	5379	5403	4595	4623	4651	5	.5
2750	400	30	2.75	15	18	21	24	27	5349	5367	5384	4588	4609	4629	5	.4
2750	440	30	2.68	10	12	15	17	20	5347	5360	5372	4586	4600	4615	5	.4
2750	480	30	2.61	6	8	10	12	14	5347	5357	5366	4586	4597	4607	4	.4
2750	520	30	2.55	2	4	6	7	9	5349	5355	5361	4588	4595	4602	4	.4
2750	560	30	2.49	-2	-1	1	2	4	5350	5355	5360	4589	4595	4601	4	.4
3000	360	30	3.06	21	25	29	33	37	5829	5855	5881	4998	5028	5058	5	.5
3000	400	30	2.97	16	19	22	25	28	5823	5842	5861	4991	5013	5035	5	.4
3000	440	30	2.90	11	14	16	19	21	5821	5835	5849	4989	5005	5020	5	.4
3000	480	30	2.82	7	9	11	13	15	5822	5832	5842	4990	5001	5013	5	.4
3000	520	30	2.76	3	5	6	8	10	5824	5830	5837	4991	4999	5007	5	.4
3000	560	30	2.69	-1	0	1	3	4	5826	5831	5837	4994	5000	5007	5	.4
3500	360	30	3.55	24	28	32	36	39	6769	6799	6828	5794	5829	5863	6	.5
3500	400	30	3.45	18	21	25	28	31	6765	6786	6807	5789	5813	5838	6	.4
3500	440	30	3.35	13	16	18	21	24	6764	6779	6794	5788	5806	5824	6	.4
3500	480	30	3.27	9	11	14	16	18	6766	6777	6789	5791	5804	5817	6	.4
3500	520	30	3.19	5	6	8	10	11	6768	6775	6783	5792	5801	5810	5	.4
3500	560	30	3.11	-0	1	3	4	6	6771	6777	6784	5796	5804	5811	5	.4
4000	360	30	4.06	27	31	35	39	42	7700	7732	7765	6579	6617	6656	7	.5
4000	400	30	3.94	21	24	27	30	33	7696	7720	7743	6575	6603	6630	7	.4
4000	440	30	3.84	16	18	21	23	26	7697	7714	7731	6576	6596	6616	6	.4
4000	480	30	3.74	12	14	16	18	20	7702	7714	7726	6582	6596	6610	6	.4
4000	520	30	3.65	7	8	10	12	13	7704	7713	7721	6584	6594	6604	6	.4
4000	560	30	3.56	1	3	4	6	7	7709	7716	7723	6590	6598	6606	6	.4
4500	360	30	4.59	30	34	38	42	45	8620	8655	8691	7352	7393	7435	8	.5
4500	400	30	4.46	24	27	30	33	36	8618	8643	8669	7349	7380	7410	8	.5
4500	440	30	4.34	18	21	24	26	29	8620	8639	8658	7353	7375	7396	7	.4
4500	480	30	4.23	14	17	19	21	23	8628	8642	8655	7362	7377	7393	7	.4
4500	520	30	4.13	9	11	12	14	16	8631	8641	8650	7366	7377	7388	7	.4
4500	560	30	4.03	3	4	6	7	9	8638	8645	8653	7373	7382	7391	7	.4
5000	360	30	5.15	33	37	41	45	49	9528	9566	9605	8110	8155	8201	9	.5
5000	400	30	5.01	27	30	33	36	39	9528	9556	9584	8111	8143	8176	8	.5
5000	440	30	4.87	21	24	26	29	31	9534	9554	9574	8117	8141	8164	8	.5
5000	480	30	4.75	17	19	21	23	25	9545	9559	9573	8130	8147	8164	8	.4
5000	520	30	4.63	11	13	15	16	18	9550	9560	9570	8136	8148	8160	8	.4
5000	560	30	4.52	5	6	8	9	10	9557	9566	9574	8145	8155	8165	8	.4
4000	360	45	2.90	12	15	18	21	24	5587	5598	5610	3900	3917	3933	5	.6
4000	400	45	2.83	7	9	12	15	17	5584	5592	5601	3896	3908	3920	5	.5
4000	440	45	2.75	3	5	7	9	11	5582	5588	5595	3894	3903	3911	5	.6
4000	480	45	2.69	0	2	4	5	7	5583	5587	5592	3894	3901	3907	5	.6
4000	520	45	2.62	-4	-3	-1	0	1	5582	5585	5588	3893	3898	3902	4	.6
4000	560	45	2.56	-9	-7	-6	-5	-4	5582	5584	5587	3893	3897	3900	4	.5
4500	360	45	3.24	13	16	19	22	25	6275	6288	6302	4374	4393	4411	5	.5
4500	400	45	3.15	8	11	13	16	18	6273	6282	6291	4370	4383	4397	5	.6
4500	440	45	3.07	4	6	8	11	13	6272	6278	6285	4368	4378	4388	5	.5
4500	480	45	2.99	1	3	5	6	8	6273	6277	6282	4370	4377	4384	5	.5
4500	520	45	2.92	-3	-2	-0	1	2	6272	6275	6278	4368	4373	4378	5	.6
4500	560	45	2.85	-8	-7	-6	-5	-4	6272	6274	6277	4369	4372	4376	5	.6
5000	360	45	3.59	14	18	21	24	27	6962	6976	6991	4845	4865	4886	6	.6
5000	400	45	3.49	10	12	15	17	20	6959	6970	6980	4841	4856	4870	6	.6
5000	440	45	3.40	6	8	10	12	14	6959	6966	6974	4840	4851	4861	6	.6
5000	480	45	3.31	3	4	6	8	10	6961	6966	6971	4843	4850	4858	6	.6
5000	520	45	3.23	-2	-1	1	2	3	6960	6963	6967	4841	4846	4852	5	.6
5000	560	45	3.15	-8	-7	-5	-4	-3	6960	6963	6966	4841	4845	4850	5	.6
5500	360	45	3.95	16	19	22	25	29	7646	7662	7677	5312	5334	5356	7	.6
5500	400	45	3.84	11	14	16	19	21	7644	7655	7666	5309	5324	5340	6	.6
5500	440	45	3.74	7	9	11	13	15	7644	7652	7660	5308	5320	5331	6	.5
5500	480	45	3.64	4	6	8	9	11	7647	7652	7658	5312	5321	5329	6	.6
5500	520	45	3.55	-1	1	2	3	5	7646	7650	7654	5311	5317	5323	6	.5
5500	560	45	3.47	-7	-6	-5	-4	-3	7646	7649	7652	5311	5316	5320	6	.6
6000	360	45	4.32	18	21	24	27	30	8328	8345	8361	5775	5799	5823	7	.6
6000	400	45	4.20	13	15	18	20	23	8326	8338	8350	5773	5790	5807	7	.6
6000	440	45	4.09	8	10	13	15	17	8327	8335	8344	5774	5786	5798	7	.6
6000	480	45	3.99	6	7	9	11	12	8331	8337	8343	5779	5788	5797	7	.6
6000	520	45	3.89	0	2	3	5	6	8330	8334	8339	5778	5785	5791	7	.6
6000	560	45	3.79	-7	-5	-4	-3	-2	8330	8333	8337	5778	5783	5788	6	.6

Table 6-39. (Sheet 6)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH M151/M156 WARHEAD AND WTU-1/B PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 5000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	WIND CORRECTIONS FACTORS MIL/KT
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS: SIGHT SETTING - MILS (NEG SETTING INDICATES ELEV)					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
7000	360	45	5.11	21	24	27	31	34	9683	9702	9721	6691	6718	6745	9	.6
7000	400	45	4.96	16	18	21	23	26	9683	9696	9710	6690	6710	6729	8	.6
7000	440	45	4.83	11	13	15	18	20	9685	9695	9704	6693	6707	6721	8	.6
7000	480	45	4.70	8	9	11	13	14	9690	9696	9703	6700	6709	6719	8	.6
7000	520	45	4.59	3	4	6	7	9	9692	9697	9702	6703	6711	6718	8	.6
7000	560	45	4.47	-5	-4	-3	-1	-0	9691	9696	9700	6702	6709	6715	8	.6
8000	360	45	5.94	25	28	31	34	38	11027	11048	11069	7589	7619	7649	10	.7
8000	400	45	5.77	19	22	24	27	29	11029	11043	11058	7592	7613	7634	10	.6
8000	440	45	5.61	15	17	19	21	23	11033	11044	11055	7598	7614	7629	9	.6
8000	480	45	5.47	10	11	13	15	16	11038	11045	11052	7605	7615	7626	9	.6
8000	520	45	5.33	5	6	7	9	10	11043	11048	11054	7612	7620	7628	9	.6
8000	560	45	5.19	-3	-2	-1	1	2	11044	11049	11055	7614	7622	7629	9	.6
6500	360	60	3.79	2	5	7	9	11	7458	7464	7470	3657	3669	3682	6	.8
6500	400	60	3.69	-1	1	3	4	6	7457	7461	7466	3654	3663	3672	6	.7
6500	440	60	3.59	-4	-2	-1	1	2	7456	7460	7463	3654	3660	3667	6	.7
6500	480	60	3.50	-6	-4	-3	-2	-1	7457	7460	7462	3656	3660	3665	6	.7
7000	360	60	4.09	3	6	8	10	12	8028	8034	8041	3930	3943	3956	7	.8
7000	400	60	3.98	-0	2	3	5	7	8026	8031	8036	3927	3937	3946	7	.7
7000	440	60	3.87	-3	-2	-0	1	3	8026	8030	8033	3927	3934	3941	7	.7
7000	480	60	3.78	-5	-4	-3	-2	-1	8027	8029	8032	3929	3933	3938	6	.7
7000	520	60	3.68	-9	-8	-7	-6	-5	8027	8028	8030	3927	3931	3935	6	.7
7000	560	60	3.59	-16	-16	-15	-14	-13	8024	8026	8027	3923	3926	3929	6	.7
7500	360	60	4.40	4	6	9	11	13	8596	8603	8610	4201	4215	4229	7	.8
7500	400	60	4.28	1	2	4	6	8	8595	8600	8605	4199	4209	4219	7	.7
7500	440	60	4.16	-2	-1	1	2	3	8595	8599	8603	4199	4206	4213	7	.7
7500	480	60	4.06	-5	-4	-3	-2	-0	8596	8598	8601	4200	4205	4210	7	.7
7500	520	60	3.95	-9	-8	-7	-6	-5	8596	8598	8599	4199	4203	4207	7	.7
7500	560	60	3.86	-16	-15	-15	-14	-13	8593	8595	8597	4195	4198	4202	7	.7
8000	360	60	4.71	5	7	10	12	14	9165	9172	9179	4471	4486	4501	8	.8
8000	400	60	4.58	1	3	5	7	9	9164	9169	9174	4469	4480	4491	8	.7
8000	440	60	4.46	-2	-0	1	3	4	9164	9168	9172	4470	4478	4485	8	.7
8000	480	60	4.34	-5	-4	-3	-1	-0	9164	9167	9169	4470	4476	4481	7	.7
8000	520	60	4.23	-9	-8	-7	-6	-5	9164	9166	9168	4470	4474	4478	7	.7
8000	560	60	4.13	-16	-15	-14	-14	-13	9162	9164	9166	4466	4470	4473	7	.7
8500	360	60	5.03	6	8	11	13	15	9732	9740	9747	4739	4755	4771	8	.8
8500	400	60	4.89	2	4	6	8	10	9731	9737	9742	4738	4749	4761	8	.7
8500	440	60	4.76	-1	1	2	4	5	9732	9736	9740	4740	4748	4756	8	.7
8500	480	60	4.63	-4	-3	-2	-1	0	9732	9735	9737	4740	4745	4751	8	.7
8500	520	60	4.52	-9	-8	-7	-6	-5	9732	9734	9736	4740	4744	4748	8	.7
8500	560	60	4.40	-16	-15	-14	-13	-12	9730	9732	9734	4736	4740	4744	7	.7
9000	360	60	5.36	7	9	12	14	16	10299	10307	10315	5006	5023	5039	9	.8
9000	400	60	5.21	3	5	7	9	10	10298	10304	10310	5006	5017	5029	9	.7
9000	440	60	5.07	0	2	3	5	6	10300	10304	10308	5008	5017	5025	9	.7
9000	480	60	4.93	-4	-3	-1	-0	1	10300	10302	10305	5008	5014	5019	8	.7
9000	520	60	4.81	-9	-8	-7	-6	-5	10299	10302	10304	5008	5012	5017	8	.7
9000	560	60	4.69	-16	-15	-14	-13	-12	10298	10300	10302	5004	5009	5013	8	.7
10000	360	60	6.03	9	11	14	16	18	11430	11438	11447	5535	5553	5571	10	.8
10000	400	60	5.86	5	7	9	11	12	11430	11436	11442	5536	5548	5561	10	.8
10000	440	60	5.70	2	4	5	7	8	11433	11437	11441	5541	5550	5559	10	.7
10000	480	60	5.55	-2	-1	-0	1	2	11432	11435	11438	5541	5547	5553	9	.7
10000	520	60	5.41	-9	-8	-7	-6	-5	11432	11434	11437	5540	5544	5549	9	.7
10000	560	60	5.27	-15	-14	-13	-12	-11	11432	11434	11436	5539	5544	5549	9	.7
11000	360	60	6.73	11	13	16	18	20	12557	12567	12576	6057	6076	6096	11	.8
11000	400	60	6.54	7	9	11	12	14	12559	12565	12572	6060	6073	6087	11	.8
11000	440	60	6.36	5	6	7	9	10	12563	12567	12572	6068	6078	6087	11	.8
11000	480	60	6.19	-1	1	2	3	4	12563	12566	12569	6068	6075	6082	10	.7
11000	520	60	6.03	-8	-7	-6	-5	-4	12562	12564	12567	6066	6072	6077	10	.7
11000	560	60	5.88	-14	-13	-12	-11	-10	12563	12566	12568	6069	6074	6080	10	.7
12000	360	60	7.46	13	16	18	20	22	13682	13692	13702	6572	6593	6613	13	.8
12000	400	60	7.24	9	11	13	14	16	13684	13691	13698	6577	6591	6606	12	.8
12000	440	60	7.05	6	7	8	10	11	13688	13693	13697	6585	6595	6605	12	.8
12000	480	60	6.86	0	2	3	4	5	13690	13693	13697	6588	6595	6603	12	.7
12000	520	60	6.68	-8	-7	-6	-4	-3	13689	13692	13695	6587	6593	6600	11	.7
12000	560	60	6.51	-13	-12	-11	-10	-9	13692	13695	13698	6594	6600	6606	11	.7

Table 6-39. (Sheet 7)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH M151/M156 WARHEAD AND WTU-1/B PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	SIGHT SETTING - MILS (NEG SETTING INDICATES ELEV) 12.0	14.0	16.0	18.0	20.0	SLANT RANGE - FEET 12.0	16.0	20.0	HORIZONTAL RANGE - FT 12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
900	360	10	2.51	24	29	33	38	42	4761	4831	4903	4676	4747	4820	4	.2
900	400	10	2.43	18	22	25	29	32	4742	4791	4842	4555	4706	4758	4	.2
900	440	10	2.36	13	15	18	21	24	4733	4769	4805	4647	4683	4720	4	.2
900	480	10	2.30	9	11	13	16	18	4737	4762	4787	4650	4676	4701	4	.2
900	520	10	2.24	3	5	7	9	11	4730	4748	4767	4544	4662	4681	4	.2
900	560	10	2.19	-5	-3	-1	0	2	4727	4742	4757	4641	4656	4671	4	.1
1250	360	10	3.31	29	34	38	43	47	6437	6526	6617	6315	6405	6498	6	.2
1250	400	10	3.20	23	26	30	33	37	6419	6483	6547	6296	6361	6427	5	.2
1250	440	10	3.11	17	20	23	26	29	6415	6461	6507	6293	6339	6386	5	.2
1250	480	10	3.03	13	15	18	20	22	6426	6458	6490	6303	6336	6369	5	.2
1250	520	10	2.95	7	9	11	13	15	6424	6448	6471	6301	6325	6350	5	.2
1250	560	10	2.88	-1	1	2	4	6	6424	6444	6464	6302	6322	6342	5	.1
1250	360	15	2.41	23	27	31	36	40	4580	4625	4672	4406	4453	4502	4	.2
1250	400	15	2.34	16	20	23	27	30	4566	4599	4632	4392	4426	4460	4	.2
1250	440	15	2.27	11	14	17	20	23	4561	4584	4607	4386	4410	4434	4	.2
1250	480	15	2.22	8	10	12	14	17	4562	4578	4595	4388	4405	4421	4	.2
1250	520	15	2.16	2	4	6	7	9	4558	4570	4582	4383	4395	4408	4	.2
1250	560	15	2.11	-6	-4	-3	-1	0	4554	4564	4574	4380	4390	4400	4	.2
1500	360	15	2.81	25	30	34	38	43	5446	5499	5553	5236	5291	5347	5	.2
1500	400	15	2.72	19	22	26	29	33	5433	5470	5509	5222	5261	5300	5	.2
1500	440	15	2.64	13	16	19	22	25	5428	5455	5482	5216	5244	5273	4	.2
1500	480	15	2.57	9	12	14	16	18	5431	5449	5468	5219	5239	5259	4	.2
1500	520	15	2.51	4	6	8	9	11	5428	5442	5456	5217	5231	5246	4	.2
1500	560	15	2.45	-4	-3	-1	1	2	5425	5437	5449	5214	5226	5238	4	.2
1750	360	15	3.21	28	32	36	41	45	6297	6357	6418	6049	6111	6175	5	.2
1750	400	15	3.11	21	25	28	32	35	6284	6327	6370	6036	6080	6125	5	.2
1750	440	15	3.02	16	18	21	24	27	6281	6312	6342	6032	6064	6096	5	.2
1750	480	15	2.95	11	13	16	18	20	6286	6307	6328	6037	6059	6081	5	.2
1750	520	15	2.87	6	8	10	12	13	6286	6302	6318	6038	6054	6071	5	.2
1750	560	15	2.80	-3	-1	1	2	4	6284	6298	6311	6036	6050	6064	5	.2
1500	360	20	2.25	20	25	29	33	37	4234	4265	4296	3959	3992	4026	4	.3
1500	400	20	2.19	14	18	21	24	28	4224	4246	4268	3949	3972	3996	4	.3
1500	440	20	2.13	9	12	15	17	20	4219	4235	4251	3944	3961	3978	4	.3
1500	480	20	2.07	5	8	10	12	14	4220	4231	4242	3944	3956	3968	4	.3
1500	520	20	2.02	0	2	4	6	7	4217	4225	4233	3941	3950	3958	3	.3
1500	560	20	1.98	-8	-6	-5	-3	-1	4213	4220	4227	3937	3945	3952	3	.3
1750	360	20	2.55	22	26	31	35	39	4914	4950	4985	4592	4630	4668	4	.3
1750	400	20	2.47	16	19	23	26	30	4904	4929	4955	4581	4608	4635	4	.3
1750	440	20	2.40	11	14	16	19	22	4900	4918	4936	4576	4596	4615	4	.3
1750	480	20	2.34	7	9	11	13	15	4900	4913	4925	4577	4590	4604	4	.3
1750	520	20	2.29	2	3	5	7	9	4899	4908	4917	4575	4585	4595	4	.3
1750	560	20	2.23	-7	-5	-3	-2	-0	4895	4903	4911	4571	4580	4589	4	.3
2000	360	20	2.85	24	28	32	37	41	5588	5628	5668	5218	5260	5303	5	.3
2000	400	20	2.77	18	21	24	28	31	5578	5606	5634	5207	5237	5267	5	.3
2000	440	20	2.69	12	15	18	21	23	5574	5594	5615	5203	5224	5246	5	.3
2000	480	20	2.62	8	10	12	15	17	5575	5589	5603	5204	5219	5234	4	.3
2000	520	20	2.56	3	5	7	8	10	5575	5585	5596	5204	5215	5226	4	.3
2000	560	20	2.50	-5	-4	-2	-1	1	5571	5581	5590	5200	5210	5220	4	.3
2000	360	30	2.11	16	20	23	27	31	3926	3943	3960	3378	3398	3418	4	.5
2000	400	30	2.05	10	13	16	19	23	3920	3932	3944	3371	3385	3400	3	.5
2000	440	30	2.00	5	8	10	13	16	3917	3926	3934	3368	3378	3388	3	.4
2000	480	30	1.95	2	4	6	8	10	3916	3922	3928	3367	3374	3381	3	.4
2000	520	30	1.90	-3	-1	0	2	4	3915	3920	3924	3366	3371	3376	3	.4
2000	560	30	1.86	-11	-10	-8	-7	-5	3912	3916	3920	3362	3367	3371	3	.4
2250	360	30	2.31	17	21	25	28	32	4407	4426	4445	3790	3811	3834	4	.5
2250	400	30	2.24	11	14	17	20	24	4401	4414	4428	3782	3798	3814	4	.4
2250	440	30	2.18	6	9	11	14	17	4398	4408	4417	3779	3790	3801	4	.4
2250	480	30	2.13	2	4	6	8	10	4397	4404	4411	3778	3786	3793	4	.4
2250	520	30	2.08	-3	-1	1	3	4	4396	4401	4406	3777	3783	3788	4	.4
2250	560	30	2.03	-10	-9	-7	-6	-4	4393	4398	4402	3773	3778	3784	3	.4
2500	360	30	2.51	18	22	26	30	33	4887	4907	4928	4199	4223	4247	4	.4
2500	400	30	2.44	12	15	18	22	25	4880	4895	4910	4191	4209	4226	4	.4
2500	440	30	2.38	7	10	12	15	18	4878	4888	4899	4188	4200	4213	4	.4
2500	480	30	2.32	3	5	7	9	11	4877	4884	4891	4187	4195	4204	4	.4
2500	520	30	2.26	-2	-0	1	3	5	4876	4881	4887	4186	4192	4199	4	.4
2500	560	30	2.21	-10	-8	-7	-5	-4	4873	4878	4883	4183	4189	4194	4	.4

Table 6-39. (Sheet 8)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH M151/M156 WARHEAD AND WTU-1/B PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS												
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
2750	360	30	2.72	19	23	27	31	35	5364	5387	5410	4506	4632	4659	5	.4
2750	400	30	2.64	13	16	20	23	26	5358	5374	5390	4598	4617	4636	4	.4
2750	440	30	2.57	8	11	13	16	19	5355	5367	5378	4595	4609	4622	4	.4
2750	480	30	2.51	4	6	8	10	12	5354	5362	5370	4594	4603	4612	4	.4
2750	520	30	2.45	-1	0	2	4	5	5354	5360	5366	4594	4601	4608	4	.4
2750	560	30	2.39	-9	-8	-6	-4	-3	5351	5357	5362	4591	4597	4603	4	.4
3000	360	30	2.94	20	24	28	32	36	5840	5865	5889	5011	5039	5068	5	.4
3000	400	30	2.85	14	17	21	24	27	5834	5851	5868	5003	5023	5044	5	.4
3000	440	30	2.78	9	12	15	17	20	5832	5844	5856	5001	5015	5030	5	.4
3000	480	30	2.71	4	6	8	10	12	5830	5839	5847	4999	5009	5019	5	.4
3000	520	30	2.64	-1	1	3	4	6	5830	5837	5843	4999	5007	5014	4	.4
3000	560	30	2.58	-9	-7	-5	-4	-2	5828	5834	5840	4997	5004	5011	4	.4
3500	360	30	3.38	23	27	30	34	38	6786	6813	6841	5813	5846	5878	5	.4
3500	400	30	3.29	16	20	23	26	29	6780	6799	6819	5806	5829	5852	6	.4
3500	440	30	3.20	12	14	17	19	22	6779	6793	6807	5805	5822	5838	5	.4
3500	480	30	3.11	6	8	10	12	14	6777	6787	6796	5804	5815	5826	5	.4
3500	520	30	3.04	0	2	4	5	7	6778	6786	6793	5805	5813	5822	5	.4
3500	560	30	2.96	-7	-6	-4	-2	-1	6777	6784	6791	5803	5812	5820	5	.4
4000	360	30	3.85	25	29	33	37	41	7723	7754	7785	6606	6642	6679	6	.4
4000	400	30	3.74	19	22	25	28	31	7717	7739	7761	6600	6625	6651	6	.4
4000	440	30	3.63	14	16	19	21	24	7718	7734	7749	6601	6619	6637	6	.4
4000	480	30	3.54	8	10	12	14	16	7717	7728	7739	6600	6612	6625	6	.4
4000	520	30	3.45	2	3	5	7	8	7719	7727	7736	6602	6611	6621	6	.4
4000	560	30	3.37	-6	-4	-2	-1	1	7720	7728	7736	6603	6612	6622	6	.4
4500	360	30	4.33	28	32	35	39	43	8651	8685	8719	7388	7428	7468	7	.4
4500	400	30	4.20	21	24	27	30	34	8647	8671	8695	7384	7412	7440	7	.4
4500	440	30	4.09	16	19	21	24	26	8650	8667	8684	7387	7407	7427	7	.4
4500	480	30	3.98	10	12	14	16	18	8650	8661	8673	7387	7401	7414	7	.4
4500	520	30	3.88	3	5	6	8	10	8652	8662	8671	7390	7401	7412	7	.4
4500	560	30	3.78	-4	-2	-1	1	3	8656	8665	8675	7394	7405	7416	6	.4
5000	360	30	4.84	30	34	38	42	46	9569	9606	9643	8159	8202	8245	8	.4
5000	400	30	4.69	24	27	30	33	36	9567	9593	9619	8157	8187	8217	8	.4
5000	440	30	4.56	19	21	24	26	29	9573	9591	9610	8164	8185	8206	8	.4
5000	480	30	4.44	12	14	16	18	20	9575	9588	9600	8166	8181	8195	7	.4
5000	520	30	4.33	4	6	8	9	11	9578	9588	9598	8169	8181	8193	7	.4
5000	560	30	4.22	-2	-1	1	3	5	9585	9595	9605	8177	8189	8202	7	.4
4000	360	45	2.79	11	14	17	20	23	5591	5602	5613	3907	3922	3938	5	.6
4000	400	45	2.71	6	8	11	13	16	5588	5596	5603	3902	3913	3924	5	.6
4000	440	45	2.64	2	4	6	8	10	5587	5592	5598	3900	3908	3916	4	.5
4000	480	45	2.58	-3	-1	0	2	4	5585	5589	5592	3897	3903	3908	4	.5
4000	520	45	2.51	-8	-7	-6	-4	-3	5584	5587	5590	3896	3900	3904	4	.5
4000	560	45	2.45	-15	-14	-13	-11	-10	5582	5585	5588	3893	3897	3901	4	.5
4500	360	45	3.10	12	15	18	21	25	6282	6294	6306	4383	4400	4418	5	.6
4500	400	45	3.01	7	9	12	15	17	6278	6287	6295	4378	4390	4402	5	.6
4500	440	45	2.93	3	5	7	9	11	6278	6284	6290	4377	4386	4394	5	.6
4500	480	45	2.86	-2	-0	1	3	5	6275	6280	6284	4374	4380	4386	5	.6
4500	520	45	2.79	-8	-7	-5	-4	-2	6274	6277	6281	4372	4377	4381	5	.5
4500	560	45	2.72	-15	-13	-12	-10	-9	6273	6276	6279	4370	4375	4380	5	.5
5000	360	45	3.42	13	16	20	23	26	6970	6983	6997	4856	4875	4894	5	.6
5000	400	45	3.32	8	11	13	16	18	6967	6976	6986	4851	4865	4878	6	.5
5000	440	45	3.23	5	7	9	11	13	6967	6973	6980	4851	4861	4870	5	.6
5000	480	45	3.15	-1	1	2	4	6	6965	6969	6974	4848	4855	4861	5	.5
5000	520	45	3.07	-8	-6	-5	-4	-2	6963	6966	6970	4846	4851	4856	5	.5
5000	560	45	3.00	-14	-12	-11	-10	-8	6962	6966	6970	4845	4850	4856	5	.5
5500	360	45	3.75	15	18	21	24	27	7656	7671	7685	5326	5347	5368	6	.5
5500	400	45	3.64	9	12	14	17	20	7653	7664	7674	5322	5337	5351	6	.5
5500	440	45	3.54	6	8	10	12	14	7654	7661	7668	5323	5333	5344	6	.6
5500	480	45	3.45	0	2	4	5	7	7652	7657	7662	5320	5327	5335	6	.5
5500	520	45	3.36	-7	-6	-4	-3	-2	7650	7654	7658	5317	5323	5329	6	.5
5500	560	45	3.28	-13	-12	-10	-9	-7	7650	7654	7659	5318	5324	5329	6	.5
6000	360	45	4.08	16	19	22	25	29	8341	8356	8372	5794	5816	5838	7	.6
6000	400	45	3.96	11	13	16	18	21	8338	8349	8360	5790	5806	5821	7	.6
6000	440	45	3.86	7	9	11	13	15	8340	8347	8355	5792	5803	5814	7	.5
6000	480	45	3.76	1	3	5	6	8	8338	8343	8349	5790	5798	5805	6	.5
6000	520	45	3.66	-7	-5	-4	-2	-1	8336	8340	8345	5786	5793	5799	6	.5
6000	560	45	3.57	-12	-11	-9	-8	-6	8337	8341	8346	5788	5795	5801	6	.5

Table 6-39. (Sheet 9)

F-5E LAUNCH TABLES
FOR
2.75 INCH FFAR WITH M151/M156 WARHEAD AND WTU-1/B PRACTICE ROCKET
SUU-20 DISPENSER
LOAD CONFIGURATION ONLY CENTERLINE STATION LOADED
TARGET DENSITY ALTITUDE 10000 FEET

ALT ABOVE TGT FT	KCAS	DIVE ANGLE DEG	TIME OF FLT SEC	AIRCRAFT GROSS WEIGHT - THOUSANDS OF POUNDS 12.0	14.0	16.0	18.0	20.0	12.0	16.0	20.0	12.0	16.0	20.0	WIND CORRECTIONS FACTORS FT/KT	MIL/KT
				SIGHT SETTING - MILS NEG SETTING INDICATES ELEV					SLANT RANGE - FEET			HORIZONTAL RANGE - FT				
7000	360	45	4.78	19	22	25	28	32	9702	9720	9738	6719	6744	6769	8	.6
7000	400	45	4.64	13	16	18	21	23	9701	9713	9726	6716	6734	6752	8	.5
7000	440	45	4.51	9	11	13	15	17	9703	9711	9719	6719	6731	6743	8	.6
7000	480	45	4.39	3	5	6	8	10	9703	9709	9715	6719	6728	6736	7	.5
7000	520	45	4.28	-5	-4	-2	-1	1	9701	9707	9712	6717	6725	6733	7	.5
7000	560	45	4.17	-10	-9	-7	-6	-5	9705	9710	9716	6722	6730	6738	7	.5
8000	360	45	5.51	22	25	28	31	35	11055	11075	11094	7630	7658	7686	9	.6
8000	400	45	5.35	16	19	21	24	26	11056	11069	11083	7631	7650	7670	9	.5
8000	440	45	5.20	10	12	14	16	18	11057	11066	11075	7632	7645	7658	9	.6
8000	480	45	5.06	4	6	8	9	11	11059	11065	11072	7635	7645	7654	9	.6
8000	520	45	4.93	-4	-2	-1	1	2	11059	11066	11073	7636	7646	7655	8	.5
8000	560	45	4.81	-8	-7	-5	-4	-2	11067	11073	11080	7648	7656	7665	8	.5
6500	360	60	3.60	1	4	6	8	10	7462	7467	7473	3664	3676	3687	5	.7
6500	400	60	3.50	-2	-0	1	3	5	7460	7464	7468	3661	3669	3677	6	.7
6500	440	60	3.41	-5	-3	-2	-0	1	7460	7463	7466	3661	3667	3672	5	.7
7000	360	60	3.87	2	4	7	9	11	8032	8038	8044	3938	3951	3963	7	.7
7000	400	60	3.76	-2	0	2	4	6	8030	8035	8039	3935	3944	3953	6	.7
7000	440	60	3.66	-4	-3	-2	-0	1	8030	8033	8036	3935	3941	3947	6	.7
7000	480	60	3.57	-9	-8	-7	-5	-4	8029	8031	8033	3932	3936	3941	6	.7
7000	520	60	3.48	-17	-16	-15	-13	-12	8026	8028	8030	3926	3930	3934	6	.6
7000	560	60	3.39	-21	-20	-19	-18	-17	8026	8028	8030	3926	3930	3934	6	.5
7500	360	60	4.15	3	5	7	10	12	8602	8608	8615	4212	4225	4238	7	.7
7500	400	60	4.03	-1	1	3	5	6	8600	8605	8609	4209	4218	4227	7	.7
7500	440	60	3.92	-4	-3	-1	-0	1	8600	8603	8606	4208	4214	4220	7	.7
7500	480	60	3.82	-9	-8	-7	-5	-4	8598	8601	8603	4205	4209	4214	6	.7
7500	520	60	3.72	-17	-16	-14	-13	-12	8596	8598	8600	4200	4204	4208	6	.6
7500	560	60	3.63	-21	-20	-18	-17	-16	8596	8598	8600	4201	4205	4209	6	.6
8000	360	60	4.42	4	6	8	10	13	9171	9178	9184	4484	4498	4511	7	.7
8000	400	60	4.30	-0	2	3	5	7	9170	9174	9179	4481	4491	4501	7	.7
8000	440	60	4.18	-4	-3	-1	0	1	9169	9172	9175	4479	4486	4492	7	.7
8000	480	60	4.07	-9	-8	-7	-6	-4	9167	9170	9172	4477	4482	4486	7	.7
8000	520	60	3.96	-17	-16	-14	-13	-12	9165	9167	9170	4472	4477	4481	7	.6
8000	560	60	3.87	-20	-19	-18	-17	-16	9166	9169	9171	4475	4479	4483	7	.5
8500	360	60	4.71	4	7	9	11	13	9739	9746	9754	4754	4769	4783	8	.7
8500	400	60	4.57	1	2	4	6	8	9739	9743	9748	4753	4763	4773	8	.7
8500	440	60	4.45	-4	-2	-1	0	2	9737	9741	9744	4750	4757	4764	8	.7
8500	480	60	4.33	-9	-8	-7	-6	-5	9736	9738	9741	4747	4752	4757	7	.7
8500	520	60	4.21	-16	-15	-14	-13	-12	9734	9737	9739	4744	4749	4754	7	.5
8500	560	60	4.11	-19	-18	-17	-16	-15	9736	9738	9741	4748	4753	4757	7	.6
9000	360	60	4.99	5	7	10	12	14	10307	10315	10322	5024	5039	5054	8	.7
9000	400	60	4.85	2	3	5	7	9	10307	10312	10317	5023	5034	5044	8	.7
9000	440	60	4.71	-3	-2	-1	1	2	10306	10309	10312	5020	5027	5034	8	.7
9000	480	60	4.59	-10	-8	-7	-6	-5	10304	10306	10309	5017	5022	5027	8	.7
9000	520	60	4.47	-16	-15	-14	-13	-12	10303	10305	10308	5015	5020	5025	8	.5
9000	560	60	4.35	-19	-18	-17	-16	-15	10305	10308	10310	5020	5025	5030	7	.5
10000	360	60	5.58	7	9	11	13	16	11441	11449	11457	5559	5575	5591	9	.7
10000	400	60	5.42	3	5	7	8	10	11442	11448	11453	5561	5572	5583	9	.7
10000	440	60	5.26	-2	-1	1	2	3	11441	11445	11448	5558	5566	5573	9	.7
10000	480	60	5.12	-10	-9	-8	-6	-5	11438	11441	11444	5553	5559	5565	9	.7
10000	520	60	4.98	-16	-15	-13	-12	-11	11439	11442	11445	5554	5560	5566	8	.5
10000	560	60	4.85	-18	-17	-16	-15	-13	11443	11446	11448	5563	5568	5574	8	.6
11000	360	60	6.19	8	10	13	15	17	12573	12581	12590	6089	6106	6124	10	.7
11000	400	60	6.00	4	6	8	10	11	12575	12580	12586	6092	6104	6115	10	.7
11000	440	60	5.83	-1	0	1	3	4	12573	12577	12581	6090	6098	6106	10	.7
11000	480	60	5.66	-10	-9	-8	-6	-5	12571	12574	12578	6085	6092	6099	10	.7
11000	520	60	5.51	-15	-14	-12	-11	-10	12573	12577	12580	6090	6097	6104	9	.6
11000	560	60	5.36	-17	-16	-14	-13	-12	12579	12582	12585	6102	6108	6114	9	.6
12000	360	60	6.80	10	12	14	16	19	13702	13711	13719	6614	6632	6650	11	.7
12000	400	60	6.59	5	6	8	10	11	13703	13708	13714	6615	6627	6639	11	.7
12000	440	60	6.40	-2	-0	1	2	4	13702	13706	13710	6614	6623	6631	11	.7
12000	480	60	6.22	-10	-9	-7	-6	-5	13701	13705	13709	6613	6621	6629	10	.7
12000	520	60	6.04	-13	-12	-11	-10	-9	13707	13710	13714	6624	6631	6639	10	.7
12000	560	60	5.88	-16	-14	-13	-12	-11	13713	13717	13720	6637	6644	6651	10	.5

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